
MPsrch_pp protein - protein database search, using Smith-Waterman algorithm

(TM)

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Run on: Fri Feb 4 16:59:46 2000; MasPar time 4.96 Seconds
Tabular output not generated. 109.982 Million cell updates/sec

Title: >US-09-150-813-7
Description: (1-10) from US09150813.pep
Perfect Score: 84
Sequence: 1 CADPKQKWQ 10

Scoring table: PAM 150
Gap 15

Searched: 179066 seqs, 54579741 residues

Post-processing: Minimum Match 0%
Listing first 45 summaries

Database: sptrembl9
1:sp.archaea 2:sp.bacteria 3:sp.fungi 4:sp.human
5:sp.invertebrate 6:sp.mammal 7:sp.mhc 8:sp.organelle
9:sp.phage 10:sp.plant 11:sp.rodent 12:sp.unclassified
13:sp.vertibrate 14:sp.virus

Statistics: Mean 24.747; Variance 35.072; scale 0.706
Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match | Length | ID | Description | Pred. No. |
|------------|-------|-------------|--------|----|------------------------|-----------|
| 1 | 80 | 95.2 | 395 | 11 | NEUROFECTIN. | 6.81e-05 |
| 2 | 80 | 95.2 | 395 | 11 | FRACTALKINE. | 6.81e-05 |
| 3 | 73 | 86.9 | 119 | 4 | MP1F-2. | 2.19e-03 |
| 4 | 71 | 84.5 | 97 | 11 | CC CHEMOKINE ST38 PREC | 5.74e-03 |
| 5 | 68 | 81.0 | 134 | 4 | BETA CHEMOKINE EXODUS- | 2.39e-02 |
| 6 | 67 | 79.8 | 95 | 4 | CHEMOKINE EXODUS | 3.82e-02 |
| 7 | 67 | 79.8 | 96 | 11 | CC CHEMOKINE EXODUS. | 3.82e-02 |
| 8 | 66 | 78.6 | 97 | 13 | LYMPHOTACTIN PRECURSOR | 6.09e-02 |
| 9 | 66 | 78.6 | 397 | 4 | CX3C CHEMOKINE PRECURS | 6.09e-02 |
| 10 | 64 | 76.2 | 80 | 4 | LD78 ALPHA BETA PRECUR | 1.53e-01 |
| 11 | 63 | 75.0 | 92 | 11 | CC CHEMOKINE ABCD-1. | 2.41e-01 |
| 12 | 62 | 73.8 | 101 | 13 | CC CHEMOKINE-1. | 3.78e-01 |
| 13 | 60 | 71.4 | 91 | 4 | RANTES PRECURSOR. | 9.20e-01 |
| 14 | 60 | 71.4 | 109 | 11 | B LYMPHOCYTE CHEMOATTR | 9.20e-01 |
| 15 | 59 | 70.2 | 120 | 4 | IL-10-INDUCIBLE CHEMOK | 1.43e-00 |
| 16 | 59 | 70.2 | 187 | 2 | HYPOTHETICAL 21.4 KD P | 1.43e-00 |
| 17 | 58 | 69.0 | 133 | 11 | BETA CHEMOKINE EXODUS- | 2.20e-00 |
| 18 | 58 | 69.0 | 133 | 11 | SMALL INDUCIBLE CYTOKI | 2.20e-00 |
| 19 | 58 | 69.0 | 1053 | 2 | RIBONUCLEOSIDE REDUCTA | 2.20e-00 |
| 20 | 57 | 67.9 | 95 | 14 | ORF K6. | 3.39e-00 |

| | | | | | | | |
|----|----|------|------|----|--------|------------------------|----------|
| 21 | 57 | 67.9 | 97 | 6 | 062812 | INTERLEUKIN-8 (FRAGEN | 3.39e+00 |
| 22 | 57 | 67.9 | 192 | 10 | 023536 | RESISTANCE GENE HOMOLO | 3.39e+00 |
| 23 | 57 | 67.9 | 1361 | 10 | 004264 | DOWNY MILDEW RESISTANC | 3.39e+00 |
| 24 | 56 | 66.7 | 522 | 5 | 061090 | SERINE RICH PROTEIN HO | 5.18e+00 |
| 25 | 55 | 65.5 | 109 | 4 | 043927 | CXC CHEMOKINE PRECURSO | 7.89e+00 |
| 26 | 55 | 65.5 | 145 | 2 | P74671 | HYPOTHETICAL 16.6 KD P | 7.89e+00 |
| 27 | 55 | 65.5 | 307 | 10 | 065737 | BETA-GALACTOSIDASE (EC | 7.89e+00 |
| 28 | 55 | 65.5 | 730 | 10 | 065736 | BETA-GALACTOSIDASE (EC | 7.89e+00 |
| 29 | 54 | 64.3 | 172 | 2 | Q51136 | HI1054 HOMOLOG (FRAGME | 1.20e+01 |
| 30 | 54 | 64.3 | 203 | 14 | 067634 | ECO O PROTEIN (FRAGEN | 1.20e+01 |
| 31 | 54 | 64.3 | 399 | 14 | Q68409 | ORF UL154. | 1.20e+01 |
| 32 | 54 | 64.3 | 475 | 4 | 060646 | HYPOTHETICAL 53.8 KD P | 1.20e+01 |
| 33 | 54 | 64.3 | 928 | 2 | 086395 | NPP47 PROTEIN. | 1.20e+01 |
| 34 | 54 | 64.3 | 949 | 5 | P90956 | TO1D3.3 PROTEIN. | 1.20e+01 |
| 35 | 54 | 64.3 | 1825 | 5 | 061210 | H19M22.1 PROTEIN (FRAG | 1.20e+01 |
| 36 | 54 | 64.3 | 2276 | 4 | 070505 | KIAA0462 PROTEIN (FRAG | 1.20e+01 |
| 37 | 53 | 63.1 | 93 | 4 | 000626 | MACROPHAGE-DERIVED CHE | 1.80e+01 |
| 38 | 53 | 63.1 | 100 | 14 | 040501 | ENVELOPE GLYCOPROTEIN | 1.80e+01 |
| 39 | 53 | 63.1 | 282 | 2 | P96965 | 2-HYDROXY-6-OXO-7-METH | 1.80e+01 |
| 40 | 53 | 63.1 | 982 | 5 | Q93290 | C27D8.3 PROTEIN. | 1.80e+01 |
| 41 | 53 | 63.1 | 1422 | 10 | 023533 | RESISTANCE GENE HOMOLO | 1.80e+01 |
| 42 | 52 | 61.9 | 108 | 11 | 070460 | EBI-1 LIGAND CHEMOKINE | 2.70e+01 |
| 43 | 52 | 61.9 | 108 | 2 | Q50686 | INSERTION ELEMENT IS61 | 2.70e+01 |
| 44 | 52 | 61.9 | 852 | 10 | 023243 | BETA-GALACTOSIDASE. | 2.70e+01 |
| 45 | 52 | 61.9 | 1872 | 11 | P70208 | PLEXIN 3. | 2.70e+01 |

ALIGNMENTS

| RESULT | 1 | PRELIMINARY; | PRT; | 395 AA. |
|--------|---|--------------|------|---------|
| ID | O35188; | | | |
| AC | O35188; | | | |
| DT | 01-JAN-1998 (TREMREL. 05, CREATED) | | | |
| DT | 01-JAN-1998 (TREMREL. 05, LAST SEQUENCE UPDATE) | | | |
| DT | 01-NOV-1998 (TREMREL. 08, LAST ANNOTATION UPDATE) | | | |
| DE | NEUROFECTIN. | | | |
| GN | SCYD1. | | | |
| OS | MUS MUSCULUS (MOUSE). | | | |
| OC | EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA; | | | |
| OC | SCIUROGNATHI; MURIDAE; MURINAE; MUS. | | | |
| RN | [1] | | | |
| RP | SEQUENCE FROM N.A. | | | |
| RX | MEDLINE; 97320499. | | | |
| RA | PAN Y., CLARE L., HONG Z., DOLICH S., DEEDS J., GONZALO J., VATH J., | | | |
| RA | GOSSELIN M., MA J., DUSSAULT B., WOOLF B., ALPERIN A., CULPEPPER J., | | | |
| RA | GUTIERREZ-RAMOS J.C., GEARING D.; | | | |
| RT | "Neurotactin, a membrane-anchored chemokine upregulated in brain | | | |
| RT | inflammation"; | | | |
| RL | NATURE 387:611-617(1997). | | | |
| DR | EMBL; AF010586; G2317698; - | | | |
| DR | MGI; MGI:1097153; SCYD1. | | | |
| DR | PFAM; PF00048; i18; 1. | | | |
| SQ | SEQUENCE 395 AA; 42098 MW; E3CD0612 CRC32; | | | |

Query Match 95.2%; Score 80; DB 11; Length 395;
Best Local Similarity 90.0%; Pred. No. 6.81e-05;
Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Db 74 CADPKQKWQ 83

QY 1 CADPKQKWQ 10

RESULT 2
ID O35933; PRELIMINARY; PRT; 395 AA.

AC O35933;
DT 01-JAN-1998 (TREMREL. 05, CREATED)
DT 01-JAN-1998 (TREMREL. 05, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMREL. 08, LAST ANNOTATION UPDATE)
DE FRACTALKINE.
OS MUS MUSCULUS (MOUSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
OC SCIUROGNATHI; MURIDAE; MURINAE; MUS.

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RN  SEQUENCE FROM N.A.
RP  SEQUENCE FROM N.A.
RC  SUPRAIN-BALB/C; TISSUE-BRAIN;
RA  ROSSI D., HARDMAN G., COPELAND N., GILBERT D.J., JENKINS N.,
RA  ZLOTNIK A., BAZAN J.F.;
RL  SUBMITTED (MAR-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
DR  EMBL; U92565; G245677; -
DR  PFAM; PF00048; i18; 1
SQ  SEQUENCE 395 AA; 42040 MW; 3997A113 CRC32;

Query Match      95.2%; Score 80; DB 11; Length 395;
Best Local Similarity 90.0%; Pred. No. 6.81e-05;
Matches      9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Db  74 CADPKQKWQ 83
QY  1 CADPKQKWQ 10

RESULT 3
ID  O00175      PRELIMINARY;      PRT; 119 AA.
AC  O00175;
DT  01-JUL-1997 (TREMBLREL. 04, CREATED)
DT  01-JUL-1997 (TREMBLREL. 04, LAST SEQUENCE UPDATE)
DT  01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE  MPF-2.
OS  HOMO SAPIENS (HUMAN).
OC  EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC  CATARRHINI; HOMINIDAE; HOMO.
RN  [1]
RP  SEQUENCE FROM N.A.
RA  PATEL V.P., KREIDER B.L., LI Y., LI H., LEUNG K., SALCEDO T.,
RA  NARDELLI B., PIPPALLA V., GENTZ S., THOTAKURA R., FARMELEE D.,
RA  GENTZ R., GAROTTA G.;
RL  J. EXP. MED. 0:0-0(0).
DR  EMBL; U85768; G1916252; -
DR  PFAM; PF00048; i18; 1.
SQ  SEQUENCE 119 AA; 13119 MW; CDF526F0 CRC32;

Query Match      86.9%; Score 73; DB 4; Length 119;
Best Local Similarity 80.0%; Pred. No. 2.19e-03;
Matches      8; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db  74 CGDPKQEWQ 83
QY  1 CADPKQKWQ 10

RESULT 4
ID  O89093      PRELIMINARY;      PRT; 97 AA.
AC  O89093;
DT  01-NOV-1998 (TREMBLREL. 08, CREATED)
DT  01-NOV-1998 (TREMBLREL. 08, LAST SEQUENCE UPDATE)
DT  01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE  CC CHEMOKINE ST38 PRECURSOR.
GN  LARC.
OS  MUS MUSCULUS (MOUSE).
OC  EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
OC  SCIUROGNATHI; MURIDAE; MURINAE; MUS.
RN  [1]
RP  SEQUENCE FROM N.A.
RA  UTANS-SCHNEITZ U., LOREZ H., KLINKERT W.E.F., DA SILVA J.,
RA  LESSLAUER W.;
RT  display, is upregulated in brain inflammation.;
RL  J. NEUROIMMUNOL. 0:0-0(1998).
RN  [2]
RP  SEQUENCE FROM N.A.
RA  VILLARES R.;
RL  SUBMITTED (JUL-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
DR  EMBL; AF053313; G3551819; -
DR  EMBL; AJ007862; E1312757; -
KW  SIGNAL.

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FT  SIGNAL      1 27      POTENTIAL.
FT  CHAIN      28 97      CC CHEMOKINE ST38.
SQ  SEQUENCE 97 AA; 10826 MW; 053405BD CRC32;

Query Match      84.5%; Score 71; DB 11; Length 97;
Best Local Similarity 88.9%; Pred. No. 5.74e-03;
Matches      8; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Db  75 CADPKQNW 83
QY  1 CADPKQKW 9

RESULT 5
ID  O00585      PRELIMINARY;      PRT; 134 AA.
AC  O00585;
DT  01-JUL-1997 (TREMBLREL. 04, CREATED)
DT  01-JUL-1997 (TREMBLREL. 04, LAST SEQUENCE UPDATE)
DT  01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE  BETA CHEMOKINE EXODUS-2.
OS  HOMO SAPIENS (HUMAN).
OC  EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC  CATARRHINI; HOMINIDAE; HOMO.
RN  [1]
RP  SEQUENCE FROM N.A.
RA  HROMAS R.A., GRAY P., KLEMSZ M., FIFE K., BROXMEYER H.;
RL  SUBMITTED (JUN-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
RN  [2]
RP  SEQUENCE FROM N.A.
RX  MEDLINE; 97400322.
RA  HEDRICK J.A., ZLOTNIK A.;
RT  "Identification and characterization of a novel beta chemokine
RT  containing six conserved cysteines.";
RL  J. IMMUNOL. 159:1589-1593(1997).
RN  [3]
RP  SEQUENCE FROM N.A.
RA  HEDRICK J.A., ZLOTNIK A.;
RL  SUBMITTED (MAY-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
RN  [4]
RP  SEQUENCE FROM N.A.
RA  NAGIRA M., IMAI T., HIESHIMA K., KUSUDA J., RIDANPAA M., TAKAGI S.,
RA  NISHIMURA M., KAKIZAKI M., NOMIYAMA H., YOSHIE O.;
RL  SUBMITTED (AUG-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
DR  EMBL; U88320; G2196920; -
DR  EMBL; AF001979; G2624925; -
DR  EMBL; AB002409; D1022673; -
DR  PFAM; PF00048; i18; 1.
SQ  SEQUENCE 134 AA; 14646 MW; FE86A239 CRC32;

Query Match      81.0%; Score 68; DB 4; Length 134;
Best Local Similarity 80.0%; Pred. No. 2.39e-02;
Matches      8; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db  75 CADPKLWQ 84
QY  1 CADPKQKWQ 10

RESULT 6
ID  O99664      PRELIMINARY;      PRT; 95 AA.
AC  O99664;
DT  01-MAY-1997 (TREMBLREL. 03, CREATED)
DT  01-MAY-1997 (TREMBLREL. 03, LAST SEQUENCE UPDATE)
DT  01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE  CHEMOKINE EXODUS.
OS  HOMO SAPIENS (HUMAN).
OC  EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC  CATARRHINI; HOMINIDAE; HOMO.
RN  [1]
RP  SEQUENCE FROM N.A.
RA  HROMAS R., GRAY P.W., CHANTRY D., GODISKA R., KRATHWOHL M., FIFE K.,
RX  MEDLINE; 97275143.

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BELL G.I., TAKEDA J., ARONICA S., GORDON M., COOPER S.,
 RA BROXMEYER H.E., KLEMSZ M.J.;
 RT "Cloning and characterization of exodus, a novel beta-chemokine.";
 RL BLOOD 89:3315-3322(1997).
 DR EMBL; U64197; G1778117;
 DR PROSITE; PS00472; SWALL_CYTOKINES_CC; 1.
 DR PFAM; PF00048; i18; 1.
 SQ SEQUENCE 95 AA; 10691 MW; 1526B4C0 CRC32;
 Query Match 79.8%; Score 67; DB 4; Length 95;
 Best Local Similarity 77.8%; Pred. No. 3.82e-02;
 Matches 7; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 73 CANPKQWV 81
 ||:|||||
 QY 1 CADPKQKW 9

RESULT 7
 ID P97884
 AC P97884; PRELIMINARY; PRT; 96 AA.
 DT 01-MAY-1997 (TREMBLREL. 03, CREATED)
 DT 01-MAY-1997 (TREMBLREL. 03, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
 DE CC CHEMOKINE EXODUS.
 OS RATTUS NORVEGICUS (RAT).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
 OC SCIUROGNATHI; MURIDAE; MURINAE; RATTUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN-SPRAGUE-DAWLEY;
 RA KELNER G.S., MACIEJEWSKI-LENOIR D., LEE E.D., MAKI R.A.;
 RL SUBMITTED (FEB-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [2]
 RP SEQUENCE FROM N.A.
 RC STRAIN-FISHER 344; TISSUE-BRAIN;
 RA UFRANS-SCHNEITZ U., LOREZ H., KLINKERT W.E.F., DA SILVA J.,
 RA LESSLAUER W.;
 RT "A novel rat CC chemokine, identified by targeted differential display, is upregulated in brain inflammation.";
 RL J. NEUROIMMUNOL. 0:0-0(1998).
 DR EMBL; U90447; G1899246; -.
 DR EMBL; AF053312; G3551817; -.
 DR PFAM; PF00048; i18; 1.
 KW SIGNAL.
 FT CHAIN
 SQ SEQUENCE 96 AA; 10875 MW; 3FC09DD8 CRC32;
 Query Match 79.8%; Score 67; DB 11; Length 96;
 Best Local Similarity 88.9%; Pred. No. 3.82e-02;
 Matches 8; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Db 74 CADPKQIW 82
 |||||||
 QY 1 CADPKQKW 9

RESULT 8
 ID O57411
 AC O57411; PRELIMINARY; PRT; 97 AA.
 DT 01-JUN-1998 (TREMBLREL. 06, CREATED)
 DT 01-JUN-1998 (TREMBLREL. 06, LAST SEQUENCE UPDATE)
 DT 01-JUN-1998 (TREMBLREL. 06, LAST ANNOTATION UPDATE)
 DE LYMPHOTACTIN PRECURSOR.
 OS GALLUS GALLUS (CHICKEN)
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; ARCHOSAURIA; AVES;
 OC NEOGNATHAE; GALLIFORMES; PHASIANIDAE; PHASIANINAE; GALLUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE-SPLEEN;
 RA ROSSI D.L., BAZAN J.F., ZLOTNIK A.;
 RL SUBMITTED (JUN-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL; AF006742; G2827882; -.
 KW SIGNAL.

FT SIGNAL 1 24
 FT CHAIN 25 97
 SQ SEQUENCE 97 AA; 11131 MW; 3290101C CRC32;
 POTENTIAL.
 LYMPHOTACTIN.
 Query Match 78.8%; Score 66; DB 13; Length 97;
 Best Local Similarity 70.0%; Pred. No. 6.09e-02;
 Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Db 73 CVHPEQKWQ 82
 | | | | | | | | | |
 QY 1 CADPKQKWQ 10

RESULT 9
 ID P78423
 AC P78423; PRELIMINARY; PRT; 397 AA.
 DT 01-MAY-1997 (TREMBLREL. 03, CREATED)
 DT 01-MAY-1997 (TREMBLREL. 03, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
 DE CX3C CHEMOKINE PRECURSOR.
 GN A-152E5.2.
 OS HOMO SAPIENS (HUMAN).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
 OC CATARRHINI; HOMINIDAE; HOMO.
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 97177111.
 RA BAZAN J.F., BACON K.B., HARDIMAN G., WANG W., SOO K., ROSSI D.,
 RA GRAVES D.R., ZLOTNIK A., SCHALL T.J.;
 RT "A new class of membrane-bound chemokine with a CX3C motif.";
 RL NATURE 385:640-644(1997).
 RN [2]
 RP SEQUENCE FROM N.A.
 RA ADAMS M.D., LOFTUS B.J., ZHOU L., CROSBY M., FUHRMANN J., MASON T.M.,
 RA BRANDON R., KIM U.J., KERLAVAGE A.R., VENTER J.C.;
 RT "Homo sapiens chromosome 16 BAC clone CIT987SK-A-152E5.";
 RL SUBMITTED (JUN-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL; U91835; G1899259; -.
 DR EMBL; U84487; G1888523; -.
 DR EMBL; AC004382; G3252821; -.
 DR PFAM; PF00048; i18; 1.
 KW SIGNAL.
 FT CHAIN
 SQ SEQUENCE 397 AA; 42202 MW; C8093D7D CRC32;
 Query Match 78.6%; Score 66; DB 4; Length 397;
 Best Local Similarity 77.8%; Pred. No. 6.09e-02;
 Matches 7; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 74 CADPKQWV 82
 |||||||
 QY 1 CADPKQKW 9

RESULT 10
 ID Q14745
 AC Q14745; PRELIMINARY; PRT; 80 AA.
 DT 01-NOV-1996 (TREMBLREL. 01, CREATED)
 DT 01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)
 DT 01-JAN-1999 (TREMBLREL. 09, LAST ANNOTATION UPDATE)
 DE LD78 ALPHA BETA PRECURSOR (FRAGMENT).
 OS HOMO SAPIENS (HUMAN).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
 OC CATARRHINI; HOMINIDAE; HOMO.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE-BRAIN;
 RA ISHIZUKA K., IGATA-YI R., NARUSE K., NAKASHIMA H., OHUCHI K.,
 RA KATSURAGI S., KIN Y., OHMOTO Y., NOMIYAMA H., IIO M., MIURA R.,
 RA MIYAKAWA T.;
 RL SUBMITTED (AUG-1995) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL; D63785; D1010501; -.

DR PROSITE: PS00472; SMALL_CYTOKINES_CC; 1.
 KW SIGNAL.

FT NON_TER 1 1
 FT SIGNAL <1 16 POTENTIAL.
 FT CHAIN 17 >80 LD78 ALPHA BETA.
 FT NON_TER 80 80
 SQ SEQUENCE 80 AA; 8857 MW; 3F87F1C6 CRC32;

Query Match 76.2%; Score 64; DB 4; Length 80;
 Best Local Similarity 70.0%; Pred. No. 1.53e-01;
 Matches 7; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Db 67 CADPSEWQ 76
 QY 1 CADPKQKWQ 10

RESULT 11
 ID O88430 PRELIMINARY; PRT; 92 AA.

DT 01-NOV-1998 (TREMREL. 08, CREATED)
 DT 01-NOV-1998 (TREMREL. 08, LAST SEQUENCE UPDATE)
 DE CC CHEMOKINE ABCD-1.
 OS MUS MUSCULUS (MOUSE).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
 CC SCIUROGNATHI; MURIDAE; MURINAE; MUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE-LIVER;
 RX MEDLINE; 98353531.
 RA SCHANIEL C., PARDALI E., SALLUSTO F., SPELETAS M., RUDEL C.,
 RA SHIMIZU T., SEIDL T., ANDERSSON J., MELCHERS F., ROLINK A.G.,
 RA SIDERAS P.;
 RT "Activated murine B lymphocytes and dendritic cells produce a novel
 CC chemokine which acts selectively on activated T cells."
 RL J. EXP. MED. 188:451-463(1998).
 DR EMBL; AF052505; G3378116; -.
 SQ SEQUENCE 92 AA; 10302 MW; BC7219A0 CRC32;

Query Match 75.08%; Score 63; DB 11; Length 92;
 Best Local Similarity 77.8%; Pred. No. 2.41e-01;
 Matches 7; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 76 CADPRQWV 84
 QY 1 CADPKQKW 9

RESULT 12
 ID O93238 PRELIMINARY; PRT; 101 AA.

DT 01-NOV-1998 (TREMREL. 08, CREATED)
 DT 01-NOV-1998 (TREMREL. 08, LAST SEQUENCE UPDATE)
 DE CC CHEMOKINE-1.
 OS CYPRINUS CARPIO (COMMON CARP).
 CC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; ACTINOPTERYGII; NEOPTERYGII;
 CC TELEOSTEI; EUTELEOSTEI; OSTARIOPHYSI; CYPRINIFORMES; CYPRINOIDEA;
 CC CYPRINIDAE; CYPRININAE; CYPRINUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RA FUJIKI K., NAKAO M., SHIN D., YANO T.;
 RT "cDNA cloning of a carp CC chemokine homologous to mammalian
 eotaxins."
 RL SUBMITTED (JAN-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL; AB010469; D1032417; -.
 SQ SEQUENCE 101 AA; 11266 MW; 9CFBD540 CRC32;

Query Match 73.8%; Score 62; DB 13; Length 101;
 Best Local Similarity 66.7%; Pred. No. 3.78e-01;
 Matches 6; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 74 CSDPKLRW 82
 QY 1 CADPKQKW 9

RESULT 13
 ID O43646 PRELIMINARY; PRT; 91 AA.
 AC O43646;
 DT 01-JUN-1998 (TREMREL. 06, CREATED)
 DT 01-JUN-1998 (TREMREL. 06, LAST SEQUENCE UPDATE)
 DE RANTES PRECURSOR.
 GN SCYA5

OS HOMO SAPIENS (HUMAN).
 CC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
 CC CATARRHINI; HOMINIDAE; HOMO.
 RN [1]

RP SEQUENCE FROM N.A.
 RA JANG J.S., KIM B.E.;
 RL SUBMITTED (JAN-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [2]

RP SEQUENCE FROM N.A.
 RA NOMIYAMA H.;
 RT "Structure of a region of 181 kb containing five CC chemokine
 genes."
 RL SUBMITTED (AUG-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL; AF043341; G2905632; -.
 DR EMBL; AF088219; G3719366; -.
 DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
 KW SIGNAL.
 FT CHAIN 1 23 POTENTIAL.
 FT CHAIN 24 91 RANTES.
 SQ SEQUENCE 91 AA; 9990 MW; CF404FAD CRC32;

Query Match 71.4%; Score 60; DB 4; Length 91;
 Best Local Similarity 60.0%; Pred. No. 9.20e-01;
 Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Db 73 CANPEKKWVR 82
 QY 1 CADPKQKWQ 10

RESULT 14
 ID O55038 PRELIMINARY; PRT; 109 AA.

DT 01-JUN-1998 (TREMREL. 06, CREATED)
 DT 01-JUN-1998 (TREMREL. 06, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMREL. 08, LAST ANNOTATION UPDATE)
 DE B LYMPHOCYTE CHEMOATTRACTANT BLC.
 OS MUS MUSCULUS (MOUSE).
 CC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
 CC SCIUROGNATHI; MURIDAE; MURINAE; MUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=C57BL/6J;
 RX MEDLINE; 98146056.
 RA GUNN M.D., NGO V.N., ANGEL K.M., EKLAND E.H., CYSTER J.G.,
 RA WILLIAMS L.T.;
 RT "A B-cell-homing chemokine made in lymphoid follicles activates
 Burkitt's lymphoma receptor-1."
 RL NATURE 391:799-803(1998).
 DR EMBL; AF044196; G2911374; -.
 SQ SEQUENCE 109 AA; 11927 MW; BB6CC22 CRC32;

Query Match 71.4%; Score 60; DB 11; Length 109;
 Best Local Similarity 50.0%; Pred. No. 9.20e-01;
 Matches 5; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

Db 75 CYNPRAKWLQ 84
 QY 1 CADPKQKWQ 10

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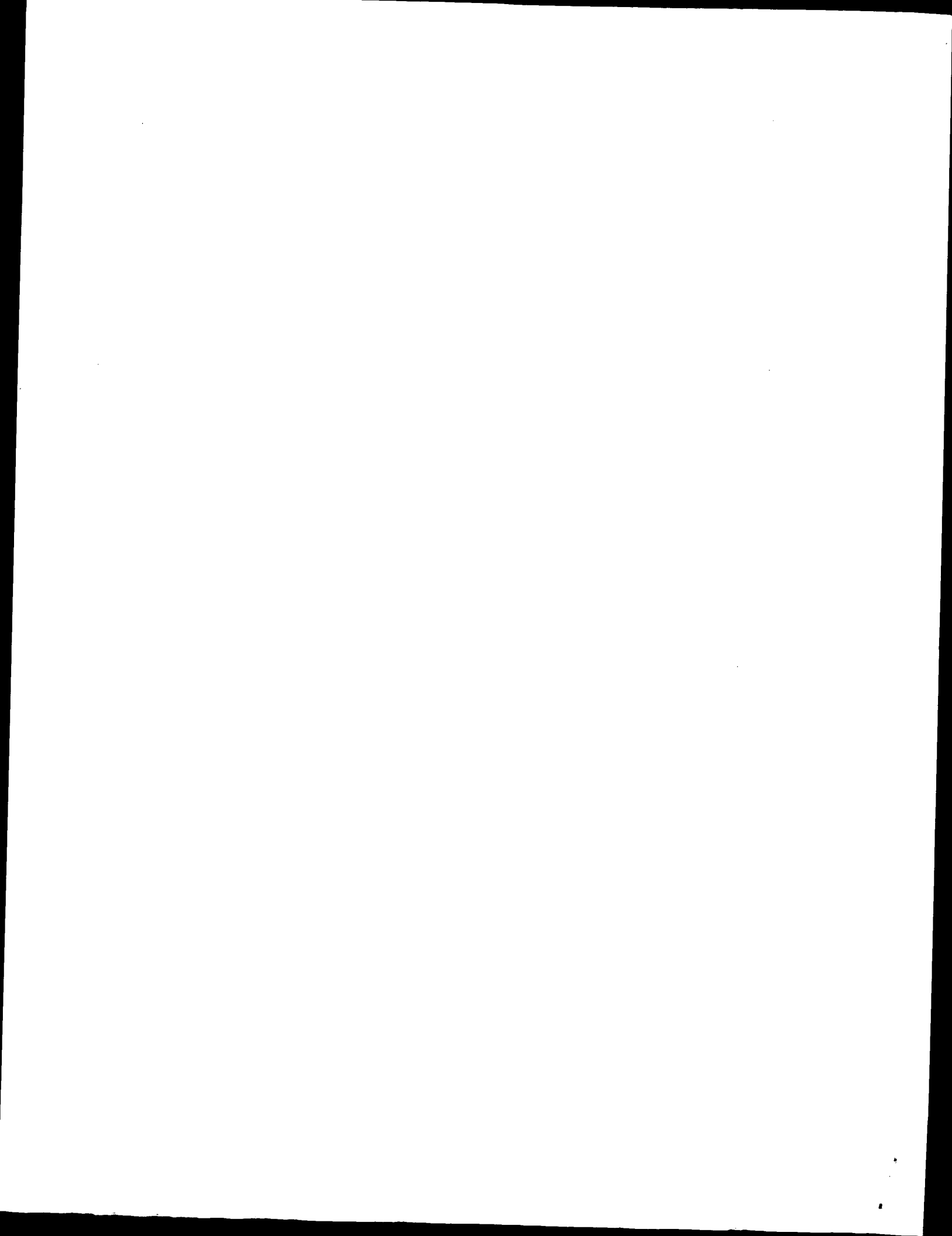
RESULT 15
ID O15467 PRELIMINARY; PRT; 120 AA.
AC O15467;
DT 01-JAN-1998 (TREMBLREL. 05, CREATED)
DT 01-JAN-1998 (TREMBLREL. 05, LAST SEQUENCE UPDATE)
DT 01-JAN-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE IL-10-INDUCIBLE CHEMOKINE.
GN ILINCK OR SCYAL16.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RA HEDRICK J.A., HELMS A., GORMAN D., ZLOTNIK A.;
RL SUBMITTED (NOV-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [2]
RP SEQUENCE FROM N.A.
RC TISSUE=LIVER;
RA SHODAI K., HIESHIMA K., FUKUDA S., IIO M., MIURA R., IMAI T.,
RA YOSHIE O., NOMIYAMA H.;
RL BIOCHIM. BIOPHYS. ACTA 0:0-0(1998).
RN [3]
RP SEQUENCE FROM N.A.
RA NOMIYAMA H.;
RT "Structure of a region of 181 kb containing five CC chemokine
RT genes";
RL SUBMITTED (AUG-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [4]
RP SEQUENCE FROM N.A.
RX MEDLINE; 98308096.
RA YOUNG B.S., ZHANG S., BROXMEYER H.E., ANTOL K., FRASER M.J. JR.,
RA HANGOC G., KWON B.S.;
RT "Isolation and characterization of LMC, a novel lymphocyte and
RT monocyte chemoattractant human CC chemokine, with myelosuppressive
RT activity";
RL BIOCHEM. BIOPHYS. RES. COMMUN. 247:217-222(1998).
DR EMBL; U91746; G2581781; -.
DR EMBL; AB007454; D1024963; -.
DR EMBL; AF088219; G3719365; -.
DR EMBL; AF055467; G3395776; -.
DR PFAM; PF00048; i18; 1.
KW SIGNAL.
SQ SEQUENCE 120 AA; 13600 MW; A079DF66 CRC32;

Query Match 70.2%; Score 59; DB 4; Length 120;
Best Local Similarity 50.0%; Pred. No. 1.43e+00;
Matches 5; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 76 CTNPDWDVQ 85
Qy 1 CADPKQKWQ 10

Search completed: Fri Feb 4 17:00:18 2000
Job time : 32 secs.

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127.601 Millisec.  
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>US-09-150-813-38  
Title:
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[1]
SEQUENCE FROM N.A.
STRAIN=C57BL/6J;
MEDLINE; 98146056.
GUNN M.D.; NGO V.N.

| Result No. | Score | Query | | ID | Description | Pred. No. |
|------------|-------|-------|--------|----|--------------------------|-----------|
| | | Match | Length | | | |
| 1 | 69 | 67.6 | 97 | 6 | INTERLEUKIN-8 (FRAGMENT) | 1.63e-02 |
| 2 | 69 | 67.6 | 109 | 11 | B LYMPHOCYTE CHEMOKINE | 1.63e-02 |
| 3 | 67 | 65.7 | 109 | 4 | CXC CHEMOKINE PRECURSOR | 4.32e-02 |
| 4 | 66 | 64.7 | 101 | 13 | CXC CHEMOKINE-1. | 6.99e-02 |
| 5 | 65 | 63.7 | 97 | 13 | LYMPHOTACTIN PRECURSOR | 1.13e-01 |
| 6 | 65 | 63.7 | 395 | 11 | FRACTALKINE. | 1.13e-01 |
| 7 | 65 | 63.7 | 395 | 11 | NEUROTACTIN. | 1.13e-01 |
| 8 | 63 | 61.8 | 80 | 4 | LD78 ALPHA BETA PRECUR | 2.89e-01 |
| 9 | 63 | 61.8 | 1325 | 10 | YUP8H12R.20. | 2.89e-01 |
| 10 | 62 | 60.8 | 91 | 4 | RANTES PRECURSOR. | 4.61e-01 |
| 11 | 62 | 60.8 | 129 | 8 | OREF31. | 4.61e-01 |
| 12 | 62 | 60.8 | 203 | 14 | ECO Q PROTEIN (FRAGMENT) | 4.61e-01 |
| 13 | 61 | 59.8 | 97 | 11 | CXC CHEMOKINE ST38 PREC | 7.30e-01 |
| 14 | 60 | 58.8 | 478 | 3 | CHROMOSOME IV COSMID 9 | 1.15e+00 |
| 15 | 59 | 57.8 | 93 | 4 | MACROPHAGE-DERIVED CHE | 1.81e+00 |
| 16 | 59 | 57.8 | 119 | 4 | MP1F-2. | 1.81e+00 |
| 17 | 58 | 56.9 | 350 | 3 | CHROMOSOME XII COSMID | 2.83e+00 |
| 18 | 58 | 56.9 | 666 | 5 | RECEPTOR TYROSINE KINA | 2.83e+00 |
| 19 | 58 | 56.9 | 899 | 4 | PROHORMONE CONVERTASE | 2.83e+00 |
| 20 | 58 | 56.9 | 915 | 4 | PCGA PROTEASE. | 2.83e+00 |

RA WILLIAMS L.T.;
 RT "A B-cell-homing chemokine made in lymphoid follicles activates
 Burkitt's lymphoma receptor-1";
 RL NATURE 391:799-803(1998).
 DR EMBL: AF044196; G2911374; -.
 SQ SEQUENCE 109 AA; 11927 MW; BB6CCC22 CRC32;
 Query Match 67.68; Score 69; DB 11; Length 109;
 Best Local Similarity 45.58; Pred. No. 1.63e-02;
 Matches 5; Conservative 5; Mismatches 1; Indels 0; Gaps 0;
 Db 74 ICVNPRAKWLQ 84
 QY 2 VCIDPKLWKIQ 12
 RESULT 3
 ID O43927 PRELIMINARY; PRT; 109 AA.
 AC O43927;
 DT 01-JUN-1998 (TREMREL. 06, CREATED)
 DT 01-JUN-1998 (TREMREL. 06, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMREL. 08, LAST ANNOTATION UPDATE)
 DE CXC CHEMOKINE PRECURSOR.
 GN BCA-1.
 OS HOMO SAPIENS (HUMAN).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
 OC CATARRHINI; HOMINIDAE; HOMO.
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE: 98130629.
 RA LEGIER D.F., LOETSCHER M., STUBER ROOS R., CLARK-LEWIS I.,
 RA BAGGIOLINI M., MOSER B.;
 RT "B cell-attracting chemokine 1, a human CXC chemokine expressed in
 lymphoid tissues, selectively attracts B lymphocytes via
 BLR1/CXCR5";
 RT J. EXP. MED. 187:655-660(1998).
 RL [2]
 RP SEQUENCE FROM N.A.
 RX MEDLINE: 98146056.
 RA GUNN M.D., NGO V.N., ANSEL K.M., EKLAND E.H., CYSTER J.G.,
 RA WILLIAMS L.T.;
 RT "A B-cell-homing chemokine made in lymphoid follicles activates
 Burkitt's lymphoma receptor-1";
 RL NATURE 391:799-803(1998).
 RN [3]
 RP SEQUENCE FROM N.A.
 RA NAPOLITANO M., SPINETTI G., GAETANO C., CAPOGROSSI C.M.;
 RL SUBMITTED (OCT-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL: AJ002211; E1249325; -.
 DR EMBL: AF044197; G2911376; -.
 DR EMBL: AF029894; G3169814; -.
 KW SIGNAL.
 FT SIGNAL 1 22 POTENTIAL.
 FT CHAIN 23 109 POTENTIAL.
 SQ SEQUENCE 109 AA; 12664 MW; BES446BC CRC32;
 Query Match 65.78; Score 67; DB 4; Length 109;
 Best Local Similarity 63.68; Pred. No. 4.32e-02;
 Matches 7; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
 Db 75 VCVDPQAEWQ 85
 QY 2 VCIDPKLWKIQ 12
 RESULT 4
 ID O93238 PRELIMINARY; PRT; 101 AA.
 AC O93238;
 DT 01-NOV-1998 (TREMREL. 08, CREATED)
 DT 01-NOV-1998 (TREMREL. 08, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMREL. 08, LAST ANNOTATION UPDATE)
 DE CC CHEMOKINE-1.
 OS CYPRINUS CARPIO (COMMON CARP).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
 OC TELEOSTEI; EUTELEOSTEI; OSTARIOPHYSI; CYPRINIFORMES; CYPRINOIDEA;
 OC CYPRINIDAE; CYPRININAE; CYPRINUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RA FUJIKI K., NAKAO M., SHIN D., YANO T.;
 RT "cDNA cloning of a carp CC chemokine homologous to mammalian
 eotaxins";
 RL SUBMITTED (JUN-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL: AB010469; D1032417; -.
 SQ SEQUENCE 101 AA; 11266 MW; 9CFBD540 CRC32;
 Query Match 64.78; Score 66; DB 13; Length 101;
 Best Local Similarity 66.78; Pred. No. 6.99e-02;
 Matches 6; Conservative 2; Mismatches 1; Indels 0; Gaps 0;
 Db 74 CSDPKLRWV 82
 QY 3 CIDPKLKI 11
 RESULT 5
 ID O57411 PRELIMINARY; PRT; 97 AA.
 AC O57411;
 DT 01-JUN-1998 (TREMREL. 06, CREATED)
 DT 01-JUN-1998 (TREMREL. 06, LAST SEQUENCE UPDATE)
 DT 01-JUN-1998 (TREMREL. 06, LAST ANNOTATION UPDATE)
 DE LYMPHOTACTIN PRECURSOR.
 OS GALLUS GALLUS (CHICKEN).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; ARCHOSAURIA; AVES;
 OC NEOGNATHAE; GALLIFORMES; PHASIANIDAE; PHASIANINAE; GALLUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE-SPLEEN;
 RA ROSSI D.L., BAZAN J.F., ZLOTNIK A.;
 RL SUBMITTED (JUN-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL: AF006742; G2827882; -.
 KW SIGNAL.
 FT CHAIN 1 24 POTENTIAL.
 FT CHAIN 25 97 LYMPHOTACTIN.
 SQ SEQUENCE 97 AA; 11131 MW; 3290101C CRC32;
 Query Match 63.78; Score 65; DB 13; Length 97;
 Best Local Similarity 41.78; Pred. No. 1.13e-01;
 Matches 5; Conservative 4; Mismatches 3; Indels 0; Gaps 0;
 Db 71 RICVHPQKWKVQ 82
 QY 1 QVCIDPKLWKIQ 12
 RESULT 6
 ID O35933 PRELIMINARY; PRT; 395 AA.
 AC O35933;
 DT 01-JAN-1998 (TREMREL. 05, CREATED)
 DT 01-JAN-1998 (TREMREL. 05, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMREL. 08, LAST ANNOTATION UPDATE)
 DE FRACTALKINE.
 OS MUS MUSCULUS (MOUSE).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
 OC SCIUROGNATHI; MURIDAE; MURINAE; MUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN-BALB/C; TISSUE-BRAIN;
 RA ROSSI D., HARDIMAN G., COPELAND N., GILBERT D.J., JENKINS N.,
 RA ZLOTNIK A., BAZAN J.F.;
 RL SUBMITTED (MAR-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL: U92565; G2459677; -.
 DR PFAM: PF00048; I18; 1.
 SQ SEQUENCE 395 AA; 42040 MW; 3997A113 CRC32;
 Query Match 63.78; Score 65; DB 11; Length 395;
 Best Local Similarity 70.08; Pred. No. 1.13e-01;

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US-09-150-813-38.rspt

Matches 7; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Db 74 CADPKEKWQ 83
Qy 3 CIDPKLKWQ 12

RESULT 7
ID O35188 PRELIMINARY; PRT; 395 AA.

AC O35188; (TREMREL. 05, CREATED)
DT 01-JAN-1998 (TREMREL. 05, LAST SEQUENCE UPDATE)
DT 01-JAN-1998 (TREMREL. 05, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMREL. 08, LAST ANNOTATION UPDATE)
DE NEURORACTIN.
GN SCYD1.
OS MUS MUSCULUS (MOUSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
OC SCIUROGNATHI; MURIDAE; MURINAE; MUS.
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE; 97320499.
RA PAN Y., CLARE L., HONG Z., DOLICH S., DEEDS J., GONZALO J., VATH J.,
RA GOSSELIN M., MA J., DUSSAULT B., WOLF B., ALPERIN A., CULPEPPER J.,
RA GUTIERREZ-RAMOS J.C., GEARING D.;
RT "Neurotactin, a membrane-anchored chemokine upregulated in brain
inflammation."
RL NATURE 387:611-617(1997).
DR EMBL; AF010586; G2317698; -.
DR MGD; MGI:1097153; SCYD1.
DR PFAM; PF00048; i18; 1.
SQ SEQUENCE 395 AA; 42098 MW; E3CD0612 CRC32;

Query Match 63.7%; Score 65; DB 11; Length 395;
Best Local Similarity 70.0%; Pred. No. 1.13e-01;
Matches 7; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Db 74 CADPKEKWQ 83
Qy 3 CIDPKLKWQ 12

RESULT 8
ID O14745 PRELIMINARY; PRT; 80 AA.

AC O14745; (TREMREL. 01, CREATED)
DT 01-NOV-1996 (TREMREL. 01, LAST SEQUENCE UPDATE)
DT 01-NOV-1996 (TREMREL. 01, LAST SEQUENCE UPDATE)
DT 01-JAN-1999 (TREMREL. 09, LAST ANNOTATION UPDATE)
DE LD78 ALPHA BETA PRECURSOR (FRAGMENT).
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=BRAIN;
RA ISHIZUKA K., IGATA-YI R., NARUSE K., NAKASHIMA H., OHUCHI K.,
RA KATSURAGI S., KIN Y., OHMOTO Y., NOMIYAMA H., IIO M., MIURA R.,
RA MIYAKAWA T.;
RL SUBMITTED (AUG-1995) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL; D63785; D1010501; -.
DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
DR PFAM; PF00048; i18; 1.
FT SIGNAL.
KW NON_TER 1
FT SIGNAL <1 16
FT CHAIN 17 >80
FT NON_TER 80
SQ SEQUENCE 80 AA; 8857 MW; 3F87F1C6 CRC32;

Query Match 61.8%; Score 63; DB 4; Length 80;
Best Local Similarity 58.3%; Pred. No. 2.89e-01;
Matches 7; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

Db 65 QVCADPSEWQ 76

Qy 1 QVCIDPKLKWQ 12

RESULT 9
ID O64533 PRELIMINARY; PRT; 1325 AA.

AC O64533; (TREMREL. 07, CREATED)
DT 01-AUG-1998 (TREMREL. 07, LAST SEQUENCE UPDATE)
DT 01-AUG-1998 (TREMREL. 07, LAST SEQUENCE UPDATE)
DT 01-AUG-1998 (TREMREL. 07, LAST ANNOTATION UPDATE)
DE YUP8H12R.20.
GN YUP8H12R.20.
OS ARABIDOPSIS THALIANA (MOUSE-EAR CRESS).
OC EUKARYOTA; VIRIDIPHYTES; STREPTOPHYTA; EMBRYOPHYTA; TRACHEOPHYTA;
OC EUPHYLLIPHYTES; SPERMATOPHYTA; MAGNOLIOPHYTA; EUDICOTYLEDONS; ROSIDAE;
OC CAPPARALES; BRASSICACEAE; ARABIDOPSIS.
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=CV. COLUMBIA;
RA THEOLOGIS A., VYSOTSKAIA V.S., OSBORNE B.I., SCHWARTZ J.R.,
RA FEDERSPIEL N.A., KWAN A., TORIUMI M., YU G., OJI, O., ARAUJO R.,
RA CHUNG E., DEWER K., DIETRICH F., ECKER J.R., MARZIALI A., OEFNER P.,
RA DAVIS R.W.;
RL SUBMITTED (OCT-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=CV. COLUMBIA;
RA THEOLOGIS A.;
RL SUBMITTED (SEP-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [3]
RP SEQUENCE FROM N.A.
RC STRAIN=CV. COLUMBIA;
RA THEOLOGIS A.;
RL SUBMITTED (OCT-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [4]
RP SEQUENCE FROM N.A.
RC STRAIN=CV. COLUMBIA;
RA THEOLOGIS A.;
RL SUBMITTED (OCT-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [5]
RP SEQUENCE FROM N.A.
RC STRAIN=CV. COLUMBIA;
RA THEOLOGIS A.;
RL SUBMITTED (OCT-1997) TO EMBL/GENBANK/DBJ DATA BANKS.

Query Match 61.8%; Score 63; DB 10; Length 1325;
Best Local Similarity 77.8%; Pred. No. 2.89e-01;
Matches 7; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Db 1076 CIDPDLWI 1084
Qy 3 CIDPKLKWQ 11

RESULT 10
ID O43646 PRELIMINARY; PRT; 91 AA.

AC O43646; (TREMREL. 06, CREATED)
DT 01-JUN-1998 (TREMREL. 06, LAST SEQUENCE UPDATE)
DT 01-JUN-1998 (TREMREL. 06, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMREL. 08, LAST ANNOTATION UPDATE)
DE RANTES PRECURSOR.
GN SCYA5.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RA JANG J.S., KIM B.E.;
RL SUBMITTED (JAN-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [2]
RP SEQUENCE FROM N.A.

RA NOMIYAMA H.;
 RT "Structure of a region of 181 kb containing five CC chemokine
 RL genes";
 RL SUBMITTED (AUG-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL; AF043341; G2905632; -;
 DR EMBL; AF088219; G3719366; -;
 DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
 KW SIGNAL.
 FT CHAIN 1 23 POTENTIAL.
 FT CHAIN 24 91 RANTES.
 SQ SEQUENCE 91 AA; 9990 MW; CF404FAD CRC32;
 Query Match 60.8%; Score 62; DB 4; Length 91;
 Best Local Similarity 50.0%; Pred. No. 4.61e-01;
 Matches 6; Conservative 3; Mismatches 3; Indels 0; Gaps 0;
 Db 71 QVCANPEKKWVR 82
 QY 1 QVCIDPKLWQ 12
 RESULT 11
 ID Q36474 PRELIMINARY; PRT; 129 AA.
 AC Q36474;
 DT 01-NOV-1996 (TREMELREL. 01, CREATED)
 DT 01-NOV-1996 (TREMELREL. 01, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMELREL. 08, LAST ANNOTATION UPDATE)
 DE ORF31.
 OS PODOPORA ANSERINA.
 OG MITOCHONDRION.
 OC EUKARYOTA; FUNGI; ASCOMYCOTA; EUASCOMYCETES; PYRENOMYCETES;
 OC SORDARIALES; SORDARIACEAE; PODOPORA.
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 89063443.
 RA CUMMINGS D.J., DOMENICO J.M., MICHEL F.;
 RT "DNA sequence and organization of the mitochondrial ND1 gene from
 RT Podospora anserina: analysis of alternate splice sites.";
 RL J. MOL. EVOL. 14:253-264(1988).
 RN [2]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 89178752.
 RA CUMMINGS D.J., DOMENICO J.M., NELSON J.;
 RT "DNA sequence and secondary structures of the large subunit rRNA
 RT coding regions and its two class I introns of mitochondrial DNA from
 RT Podospora anserina.";
 RL J. MOL. EVOL. 28:242-255(1989).
 RN [3]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 88118920.
 RA TURKER M.S., DOMENICO J.M., CUMMINGS D.J.;
 RT "Excision-amplification of mitochondrial DNA during senescence in
 RT Podospora anserina. A potential role for an 11 base-pair consensus
 RT sequence in the excision process.";
 RL J. MOL. BIOL. 198:171-185(1987).
 RN [4]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 89125610.
 RA CUMMINGS D.J., DOMENICO J.M.;
 RT "Sequence analysis of mitochondrial DNA from Podospora anserina.
 RT Pervasiveness of a class I intron in three separate genes.";
 RL J. MOL. BIOL. 204:815-839(1988).
 RN [5]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 89178751.
 RA CUMMINGS D.J., DOMENICO J.M., NELSON J., SOGIN M.L.;
 RT "DNA sequence, structure, and phylogenetic relationship of the small
 RT subunit rRNA coding region of mitochondrial DNA from Podospora
 RT anserina.";
 RL J. MOL. EVOL. 28:232-241(1989).
 RN [6]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 86037239.

RA CUMMINGS D.J., MACNEIL I.A., DOMENICO J., MATSUURA E.T.;
 RT "Excision-amplification of mitochondrial DNA during senescence in
 RT Podospora anserina. DNA sequence analysis of three unique
 RT "plasmids";
 RL J. MOL. BIOL. 185:659-680(1985).
 RN [7]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 90124723.
 RA CUMMINGS D.J., MICHEL F., MCNALLY K.L.;
 RT "DNA sequence analysis of the apocytochrome b gene of Podospora
 RT anserina: a new family of intronic open reading frame.";
 RL CURR. GENET. 16:407-418(1989).
 RN [8]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 90124722.
 RA CUMMINGS D.J., MICHEL F., MCNALLY K.L.;
 RT "DNA sequence analysis of the 24.5 kilobase pair cytochrome oxidase
 RT subunit I mitochondrial gene from Podospora anserina: a gene with
 RT sixteen introns.";
 RL CURR. GENET. 16:381-406(1989).
 RN [9]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 90204556.
 RA CUMMINGS D.J., MICHEL F., DOMENICO J.M., MCNALLY K.L.;
 RT "DNA sequence analysis of the mitochondrial ND4L-ND5 gene complex
 RT from Podospora anserina. Duplication of the ND4L gene within its
 RT intron.";
 RL J. MOL. BIOL. 212:269-286(1990).
 RN [10]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 90204556.
 RA CUMMINGS D.J., MICHEL F., DOMENICO J.M., MCNALLY K.L.;
 RT "Mitochondrial DNA sequence analysis of the cytochrome oxidase
 RT subunit II gene from Podospora anserina. A group IA intron with a
 RT putative alternative splice site.";
 RL J. MOL. BIOL. 212:287-294(1990).
 RN [11]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 90291512.
 RA CUMMINGS D.J., MCNALLY K.L., DOMENICO J.M., MATSUURA E.T.;
 RT "The complete DNA sequence of the mitochondrial genome of Podospora
 RT anserina.";
 RL CURR. GENET. 17:375-402(1990).
 DR EMBL; X55026; G578922; -;
 KW MITOCHONDRION.
 SQ SEQUENCE 129 AA; 14664 MW; 6E193901 CRC32;
 Query Match 60.8%; Score 62; DB 8; Length 129;
 Best Local Similarity 70.0%; Pred. No. 4.61e-01;
 Matches 7; Conservative 1; Mismatches 2; Indels 0; Gaps 0;
 Db 55 VPISPKLRWI 64
 QY 2 VCIDPKLW 11
 RESULT 12
 ID Q67634 PRELIMINARY; PRT; 203 AA.
 AC Q67634;
 DT 01-NOV-1996 (TREMELREL. 01, CREATED)
 DT 01-NOV-1996 (TREMELREL. 01, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMELREL. 08, LAST ANNOTATION UPDATE)
 DE ECO Q PROTEIN (FRAGMENT).
 OS GALLIUS HERPESVIRUS TYPE 1.
 OC VIRUSES; DSDNA VIRUSES, NO RNA STAGE; HERPESVIRIDAE;
 OC ALPHAHERPESVIRINAE; VARICELLOVIRUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RX STRAIN=GA;
 RA PENG Q., ZENG M., BHUIYAN Z.A., UBUKATA E., TANAKA A., NONOYAMA M.,
 RA SHIRAZI Y.;
 RT "Isolation and characterization of Marek's disease virus (MDV) cDNAs

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RT mapping to the BamHI-12, BamHI-Q2, and BamHI-L fragments of the MDV genome from lymphoblastoid cells transformed and persistently infected with MDV.
 RL VIROLOGY 213:590-599(1995).
 DR EMBL: U34966; G1185444; -.
 DR PFAM: PF00048; 118; 1.
 FT NON-TER 1
 SQ SEQUENCE 203 AA; 23132 MW; 887D04C3 CRC32;

Query Match 60.8%; Score 62; DB 14; Length 203;
 Best Local Similarity 54.5%; Pred. No. 4.61e-01; Indels 0; Gaps 0;
 Matches 6; Conservative 2; Mismatches 3;

Db 145 VCVDPKAPWQ 155
 II:III:II
 QY 2 VCIDPKLKI 12

RESULT 13 PRELIMINARY; PRT; 97 AA.
 ID 089093
 AC 089093
 DT 01-NOV-1998 (TREMELREL. 08, CREATED)
 DT 01-NOV-1998 (TREMELREL. 08, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMELREL. 08, LAST ANNOTATION UPDATE)
 DE CC CHEMOKINE ST38 PRECURSOR.
 GN LARC.
 OS MUS MUSCULUS (MOUSE).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
 OC SCIUROGNATHI; MURIDAE; MURINAE; MUS.
 [1]
 RP SEQUENCE FROM N.A.
 RA UTANS-SCHNEITZ U., LOREZ H., KLINKERT W.E.F., DA SILVA J.,
 RA LESSLAUER W.;
 RT "A novel rat CC chemokine, identified by targeted differential display, is upregulated in brain inflammation."
 RT J. NEUROIMMUNOL. 0:0-0(1998).
 RL [2]
 RP SEQUENCE FROM N.A.
 RA VILLARES R.;
 RL SUBMITTED (JUL-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL: AF053313; G3551819; -.
 DR EMBL: AJ007862; E1312757; -.
 KW SIGNAL. 1 27 POTENTIAL.
 FT CHAIN 28 97 CC CHEMOKINE ST38.
 FT SEQUENCE 97 AA; 10826 MW; 053405BD CRC32;

Query Match 59.8%; Score 61; DB 11; Length 97;
 Best Local Similarity 60.0%; Pred. No. 7.30e-01; Indels 0; Gaps 0;
 Matches 6; Conservative 2; Mismatches 2;

Db 74 VCAPDQKQWV 83
 II:III:II
 QY 2 VCIDPKLKI 11

RESULT 14 PRELIMINARY; PRT; 478 AA.
 ID Q06640
 AC Q06640
 DT 01-NOV-1996 (TREMELREL. 01, CREATED)
 DT 01-NOV-1996 (TREMELREL. 01, LAST SEQUENCE UPDATE)
 DT 01-AUG-1998 (TREMELREL. 07, LAST ANNOTATION UPDATE)
 DE CHROMOSOME IV COSMID 9740.
 GN D9740.16.
 OS SACCHAROMYCES CEREVISIAE (BAKER'S YEAST).
 OC EUKARYOTA; FUNGI; ASCOMYCOTA; HEMIASCOMYCETES; SACCHAROMYCETALES;
 OC SACCHAROMYCETACEAE; SACCHAROMYCES.
 [1]
 RP SEQUENCE FROM N.A.
 RA JOHNSTON M., ANDREWS S., BRINKMAN R., COOPER J., DING H., DU Z.,
 RA FAVELLO A., FULTON L., GATTUNG S., GRECO T., KIRSTEN J., KUCABA T.,
 RA HALLSWORTH K., HAWKINS J., HILLIER L., JIER M., JOHNSON D.,
 RA JOHNSTON L., LANGSTON Y., LATREILLE P., LE T., MARDIS E., MENEZES S.,

RA MILLER N., NHAN M., PAULEY A., PELUSO D., RIFKEN L., RILES L.,
 RA TALCH A., TREVASKIS E., VIGNATI D., WILCOX L., WOHLDMAN P., VAUDIN M.,
 RA WILSON R., WATERSTON R.;
 RL SUBMITTED (JUN-1995) TO EMBL/GENBANK/DBJ DATA BANKS.
 [2]
 RP SEQUENCE FROM N.A.
 RA DING H.;
 RL SUBMITTED (JUN-1995) TO EMBL/GENBANK/DBJ DATA BANKS.
 [3]
 RP SEQUENCE FROM N.A.
 RA WATERSTON R.;
 RL SUBMITTED (JUN-1995) TO EMBL/GENBANK/DBJ DATA BANKS.
 [4]
 RP SEQUENCE FROM N.A.
 RA JIA Y., CHERRY J.M.;
 RL SUBMITTED (JUN-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL: U28374; G849223; -.
 SQ SEQUENCE 478 AA; 54436 MW; 380C8ED7 CRC32;

Query Match 58.8%; Score 60; DB 3; Length 478;
 Best Local Similarity 55.6%; Pred. No. 1.15e+00; Indels 0; Gaps 0;
 Matches 5; Conservative 2; Mismatches 2;

Db 445 ICVSPKLGW 453
 II:III:II
 QY 2 VCIDPKLKI 10

RESULT 15 PRELIMINARY; PRT; 93 AA.
 ID 000626
 AC 000626
 DT 01-JUL-1997 (TREMELREL. 04, CREATED)
 DT 01-JUL-1997 (TREMELREL. 04, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMELREL. 08, LAST ANNOTATION UPDATE)
 DE MACROPHAGE-DERIVED CHEMOKINE PRECURSOR.
 GN MDC OR A-152E5.1.
 OS HOMO SAPIENS (HUMAN).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
 OC CATARRHINI; HOMINIDAE; HOMO.
 [1]
 RP SEQUENCE FROM N.A.
 RA GODISKA R., CHANTRY D., RAPORT C.J., SOZZANI S., ALLAVENA P.,
 RA MANTOVANI A., GRAY P.W.;
 RL SUBMITTED (JUN-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 [2]
 RP SEQUENCE FROM N.A.
 RA CHANG M.S., MCNINCH J., ELIAS III C., MANTHEY C.L., GROSSHANS D.,
 RA MENG T., BOONE T., ANDREW D.P.;
 RL SUBMITTED (JUN-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 [3]
 RP SEQUENCE FROM N.A.
 RA ADAMS M.D., LOFTUS B.J., ZHOU L., CROSBY M., FUHRMANN J., MASON T.M.,
 RA BRANDON R., KIM U.J., KERLAVAGE A.R., VENTER J.C.;
 RT "Homo sapiens Chromosome 16 BAC clone CIT987SK-A-152E5.";
 RL SUBMITTED (JUN-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL: U83171; G1931581; -.
 DR EMBL: U83239; G2062425; -.
 DR EMBL: AC004382; G3252820; -.
 DR PFAM: PF00048; 118; 1.
 KW SIGNAL. 1 24 POTENTIAL.
 FT CHAIN 25 93 MACROPHAGE-DERIVED CHEMOKINE.
 SQ SEQUENCE 93 AA; 10580 MW; 65EA63D2 CRC32;

Query Match 57.8%; Score 59; DB 4; Length 93;
 Best Local Similarity 36.4%; Pred. No. 1.81e+00; Indels 0; Gaps 0;
 Matches 4; Conservative 5; Mismatches 2;

Db 74 EICADPRPVW 84
 II:III:II
 QY 1 QVCIDPKLKI 11

Sat Feb 5 15:14:41 2000

Search completed: Fri Feb 4 17:05:18 2000
Job time : 56 secs.

US-09-150-813-38.rspt

M P E R L A

(TM)

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MPsrch_pp protein - protein database search, using Smith-Waterman algorithm
Run on: Fri Feb 4 17:10:08 2000; MasPar time 5.11 Seconds
128.223 Million cell updates/sec
Tabular output not generated.

Title: >US-09-150-813-40
Description: (1-12) from US09150813.pep
Perfect Score: 99
Sequence: 1 ELCLDPKENWVQ 12

Scoring table: PAM 150
Gap 15

Searched: 179066 seqs, 54579741 residues

Post-processing: Minimum Match 0%
Listing first 45 summaries

Database: strembl9
1:sp-archaea 2:sp-bacteria 3:sp-fungi 4:sp-human
5:sp-invertebrate 6:sp-mammal 7:sp-mhc 8:sp-organelle
9:sp-phase 10:sp-plant 11:sp-rodent 12:sp-unclassified
13:sp-vertebrate 14:sp-virus

Statistics: Mean 25.761; Variance 34.141; scale 0.755

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match | Length | ID | Description | Pred. No. |
|------------|-------|-------------|--------|----|------------------------|-----------|
| 1 | 78 | 78.8 | 134 | 4 | BETA CHEMOKINE EXODUS | 1.31e-04 |
| 2 | 72 | 72.7 | 133 | 11 | BETA CHEMOKINE EXODUS | 2.88e-03 |
| 3 | 72 | 72.7 | 133 | 11 | SMALL INDUCIBLE CYTOK | 2.88e-03 |
| 4 | 71 | 71.7 | 395 | 11 | NEUROFACIN | 4.77e-03 |
| 5 | 71 | 71.7 | 395 | 11 | NEUROFACIN | 4.77e-03 |
| 6 | 69 | 69.7 | 97 | 6 | INTERLEUKIN-8 (FRAGMEN | 1.29e-02 |
| 7 | 69 | 69.7 | 120 | 4 | IL-10-INDUCIBLE CHEMOK | 1.29e-02 |
| 8 | 68 | 68.7 | 119 | 4 | MP1F-2 | 2.11e-02 |
| 9 | 66 | 66.7 | 80 | 4 | LD78 ALPHA BETA PRECUR | 5.60e-02 |
| 10 | 65 | 65.7 | 97 | 11 | CC CHEMOKINE ST38 PREC | 9.07e-02 |
| 11 | 65 | 65.7 | 104 | 13 | K63 CHEMOKINE PRECURS | 2.34e-01 |
| 12 | 63 | 63.6 | 397 | 4 | CC CHEMOKINE PRECURS | 2.34e-01 |
| 13 | 63 | 63.6 | 455 | 10 | 1-AMINOCYCLOPROPANE-1- | 2.34e-01 |
| 14 | 63 | 63.6 | 477 | 10 | 1-AMINOCYCLOPROPANE 1- | 2.34e-01 |
| 15 | 62 | 62.6 | 158 | 10 | PUTATIVE DISEASE RESIS | 3.75e-01 |
| 16 | 61 | 61.6 | 176 | 11 | CONSERVED HYPOTHETICAL | 5.96e-01 |
| 17 | 60 | 60.6 | 92 | 11 | CC CHEMOKINE ABCD-1 | 9.44e-01 |
| 18 | 60 | 60.6 | 101 | 13 | LFCA-1 PROTEIN PRECURS | 9.44e-01 |
| 19 | 60 | 60.6 | 109 | 4 | CXC CHEMOKINE PRECURS | 9.44e-01 |
| 20 | 59 | 59.6 | 97 | 13 | LYMPHOTACTIN PRECURSOR | 1.49e+00 |

| | | | | | | |
|----|----|------|------|----|--------|----------|
| 21 | 59 | 59.6 | 535 | 4 | Q15830 | 1.49e+00 |
| 22 | 59 | 59.6 | 862 | 4 | O99665 | 1.49e+00 |
| 23 | 58 | 58.6 | 95 | 14 | O98158 | 2.34e+00 |
| 24 | 58 | 58.6 | 109 | 11 | O55038 | 2.34e+00 |
| 25 | 58 | 58.6 | 203 | 14 | O67634 | 2.34e+00 |
| 26 | 58 | 58.6 | 522 | 5 | O61090 | 2.34e+00 |
| 27 | 58 | 58.6 | 1142 | 4 | Q14324 | 2.34e+00 |
| 28 | 57 | 57.6 | 95 | 4 | O99664 | 3.65e+00 |
| 29 | 57 | 57.6 | 96 | 11 | P97884 | 3.65e+00 |
| 30 | 57 | 57.6 | 365 | 10 | Q42917 | 3.65e+00 |
| 31 | 57 | 57.6 | 1777 | 14 | O89278 | 3.65e+00 |
| 32 | 57 | 57.6 | 2919 | 14 | O85431 | 3.65e+00 |
| 33 | 56 | 56.6 | 68 | 10 | Q41694 | 5.66e+00 |
| 34 | 56 | 56.6 | 93 | 4 | O00626 | 5.66e+00 |
| 35 | 56 | 56.6 | 148 | 14 | Q82745 | 5.66e+00 |
| 36 | 56 | 56.6 | 210 | 2 | O69755 | 5.66e+00 |
| 37 | 56 | 56.6 | 490 | 10 | Q43813 | 5.66e+00 |
| 38 | 56 | 56.6 | 719 | 10 | O23317 | 5.66e+00 |
| 39 | 56 | 56.6 | 745 | 4 | O14666 | 5.66e+00 |
| 40 | 56 | 56.6 | 889 | 10 | O22728 | 5.66e+00 |
| 41 | 56 | 56.6 | 925 | 10 | O64789 | 5.66e+00 |
| 42 | 56 | 56.6 | 1089 | 5 | Q26155 | 5.66e+00 |
| 43 | 56 | 56.6 | 1130 | 14 | Q88282 | 5.66e+00 |
| 44 | 56 | 56.6 | 1716 | 4 | O14528 | 5.66e+00 |
| 45 | 56 | 56.6 | | | | |

ALIGNMENTS

RESULT 1
ID O00585 PRELIMINARY; PRT; 134 AA.
AC O00585;
DT 01-JUL-1997 (TREMUREL. 04, CREATED)
DT 01-JUL-1997 (TREMUREL. 04, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMUREL. 08, LAST ANNOTATION UPDATE)
DE BETA CHEMOKINE EXODUS-2.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RA HROMAS R.A., GRAY P., KLEMSZ M., FIFE K., BROXMEYER H.;
RL SUBMITTED (JUN-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE; 97400322.
RA HEDRICK J.A., ZLOTNIK A.;
RT "Identification and characterization of a novel beta chemokine
containing six conserved cysteines";
RL J. IMMUNOL. 159:1589-1593(1997).
RN [3]
RP SEQUENCE FROM N.A.
RA HEDRICK J.A., ZLOTNIK A.;
RL SUBMITTED (MAY-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [4]
RP SEQUENCE FROM N.A.
RA NAGIRA M., IMAI T., HIESHIMA K., KUSUDA J., RIDANPAA M., TAKAGI S.,
NISHIMURA M., KAKIZAKI M., NOMIYAMA H., YOSHIE O.;
RL SUBMITTED (AUG-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL; U88320; G2196920; -
DR EMBL; AF001979; G2624925; -
DR EMBL; AB002409; D1022673; -
DR PFAM; PF00048; 118; 1.
SQ SEQUENCE 134 AA; 14646 MW; FE86A239 CRC32;

Query Match 78.8%; Score 78; DB 4; Length 134;
Best Local Similarity 83.3%; Pred. No. 1.31e-04;
Matches 10; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Db 73 ELCLDPKENWVQ 84

QY 1 ELCLDPKENWVQ 12

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RESULT 2
ID O09006 PRELIMINARY; PRT; 133 AA.
AC O09006;
DT 01-JUL-1997 (TREMREL. 04, CREATED)
DT 01-AUG-1998 (TREMREL. 07, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMREL. 08, LAST ANNOTATION UPDATE)
DE BETA CHEMOKINE EXODUS-2.
GN SCYA21
OS MUS MUSCULUS (MOUSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
OC SCIUROGNATHI; MURIDAE; MURINAE; MUS.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE-TOTAL FETUS;
RX MEDLINE: 97444139.
RA HROMAS R., KIM C.H., KLEMSZ M., KRATHWOHL M., FIFE K., COOPER S.,
RA SCHIZLEIN-BICK C., BROXMEYER H.B.;
RT "Isolation and characterization of Exodus-2, a novel C-C chemokine
RT with a unique 37-amino acid carboxyl-terminal extension.";
RL J. IMMUNOL. 159:2554-2558(1997).
RN [2]
RP SEQUENCE FROM N.A.
RC TISSUE-TOTAL FETUS;
RA HROMAS R.A.;
RL SUBMITTED (JUN-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL; U88322; G3169697; -.
DR MGD; MGI:1097677; SCYA21.
DR PFAM; PF00048; i18; 1.
SQ SEQUENCE 133 AA; 14600 MW; B34A5E22 CRC32;

Query Match 72.7%; Score 72; DB 11; Length 133;
Best Local Similarity 66.7%; Pred. No. 2.88e-03;
Matches 8; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Db 73 ELCANPEEGWQ 84
QY 1 ELCIDPKENWQ 12

RESULT 3
ID O09002 PRELIMINARY; PRT; 133 AA.
AC O09002;
DT 01-JUL-1997 (TREMREL. 04, CREATED)
DT 01-JUL-1997 (TREMREL. 04, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMREL. 08, LAST ANNOTATION UPDATE)
DE SMALL INDUCIBLE CYTOKINE A21 (TCA4).
GN SCYA21.
OS MUS MUSCULUS (MOUSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
OC SCIUROGNATHI; MURIDAE; MURINAE; MUS.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE-THYMUS;
RA TANABE S., LU Z., LUO Y., QUACKENBUSH E.J., BERMAN M.A.,
RA COLLINS-RACIE L.A., MI S., REILLY C., LO D., JACOBS K.A., DORF M.E.;
RL SUBMITTED (JUN-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE: 97400322.
RA HEDRICK J.A., ZLOTNIK A.;
RT "Identification and characterization of a novel beta chemokine
RT containing six conserved cysteines.";
RL J. IMMUNOL. 159:1589-1593(1997).
RN [3]
RP SEQUENCE FROM N.A.
RA HEDRICK J.A., ZLOTNIK A.;
RL SUBMITTED (MAY-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL; AF006637; G2209189; -.
DR MGD; AF001980; G2624927; -.
DR PFAM; MGI:1097677; SCYA21.
DR PFAM; PF00048; i18; 1.
SQ SEQUENCE 133 AA; 14558 MW; C0532523 CRC32;

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Query Match 72.7%; Score 72; DB 11; Length 133;
Best Local Similarity 66.7%; Pred. No. 2.88e-03;
Matches 8; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Db 73 ELCANPEEGWQ 84
QY 1 ELCIDPKENWQ 12

RESULT 4
ID O35933 PRELIMINARY; PRT; 395 AA.
AC O35933;
DT 01-JAN-1998 (TREMREL. 05, CREATED)
DT 01-JAN-1998 (TREMREL. 05, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMREL. 08, LAST ANNOTATION UPDATE)
DE FRACTALKIN.
OS MUS MUSCULUS (MOUSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
OC SCIUROGNATHI; MURIDAE; MURINAE; MUS.
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN-BALB/C; TISSUE-BRAIN;
RA ROSSI D., HARDMAN G., COPELAND N., GILBERT D.J., JENKINS N.,
RA ZLOTNIK A., BAZAN J.F.;
RL SUBMITTED (MAR-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL; U92565; G2459677; -.
DR PFAM; PF00048; i18; 1.
SQ SEQUENCE 395 AA; 42040 MW; 3997A113 CRC32;

Query Match 71.7%; Score 71; DB 11; Length 395;
Best Local Similarity 72.7%; Pred. No. 4.77e-03;
Matches 8; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 73 FCADPKKWKWQ 83
QY 2 LCLDPKENWQ 12

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RESULT 5
ID O35188 PRELIMINARY; PRT; 395 AA.
AC O35188;
DT 01-JAN-1998 (TREMREL. 05, CREATED)
DT 01-JAN-1998 (TREMREL. 05, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMREL. 08, LAST ANNOTATION UPDATE)
DE NEUROTACTIN.
GN SCYD1.
OS MUS MUSCULUS (MOUSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
OC SCIUROGNATHI; MURIDAE; MURINAE; MUS.
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE: 97320499.
RA PAN Y., CLARE L., HONG Z., DOLICH S., DEEDS J., GONZALO J., VATH J.,
RA GOSSELIN M., MA J., DUSSAULT B., WOLFF B., ALPERIN A., CULPEPPER J.,
RA GUTIERREZ-RAMOS J.C., GEARING D.;
RT "Neurotactin, a membrane-anchored chemokine upregulated in brain
RT inflammation.";
RL NATURE 387:611-617(1997).
DR EMBL; AF010586; G2317698; -.
DR MGD; MGI:1097153; SCYD1.
DR PFAM; PF00048; i18; 1.
SQ SEQUENCE 395 AA; 42098 MW; E3CD0612 CRC32;

Query Match 71.7%; Score 71; DB 11; Length 395;
Best Local Similarity 72.7%; Pred. No. 4.77e-03;
Matches 8; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 73 FCADPKKWKWQ 83
QY 2 LCLDPKENWQ 12

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Sat Feb 5 15:13:52 2000

Query Match 69.7%; Score 69; DB 4; Length 120;
 Best Local Similarity 50.0%; Pred. No. 1.29e-02;
 Matches 6; Conservative 5; Mismatches 1; Indels 0; Gaps 0;

RESULT 6 PRELIMINARY; PRT; 97 AA.

ID O62812
 AC O62812
 DT 01-AUG-1998 (TREMELREL. 07, CREATED)
 DT 01-AUG-1998 (TREMELREL. 07, LAST SEQUENCE UPDATE)
 DT 01-AUG-1998 (TREMELREL. 07, LAST ANNOTATION UPDATE)
 DE INTERLEUKIN-8 (FRAGMENT).
 GN IL-8.

OS EQUUS CABALLUS (HORSE).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC PERISSODACTYLA; EQUIDAE; EQUUS.

[1]

SEQUENCE FROM N.A.

FRANCHINI M.;

RA SUBMITTED (APR-1998) TO EMBL/GENBANK/DBJ DATA BANKS.

RL EMBL; AF062377; G3126973; -.

DR EMBL; AF062377; G3126973; -.

FT NON_TER 97

SQ SEQUENCE 97 AA; 10742 MW; 003966FBF CRC32;

Query Match 69.7%; Score 69; DB 6; Length 97;

Best Local Similarity 58.3%; Pred. No. 1.29e-02;

Matches 7; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

Db 75 EVCINPHTKWQ 86

QY 1 ELCCLDPKENWVQ 12

RESULT 7 PRELIMINARY; PRT; 120 AA.

ID O15467

AC O15467

DT 01-JAN-1998 (TREMELREL. 05, CREATED)

DT 01-JAN-1998 (TREMELREL. 05, LAST SEQUENCE UPDATE)

DT 01-JAN-1998 (TREMELREL. 08, LAST ANNOTATION UPDATE)

DE IL-10-INDUCIBLE CHEMOKINE.

GN ILINCK OR SCYAL6.

OS HOMO SAPIENS (HUMAN).

OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;

OC CATARRHINI; HOMINIDAE; HOMO.

[1]

SEQUENCE FROM N.A.

HEDRICK J.A., HELMS A., GORMAN D., ZLOTNIK A.;

RA SUBMITTED (NOV-1997) TO EMBL/GENBANK/DBJ DATA BANKS.

[2]

SEQUENCE FROM N.A.

RC TISSUE=LIVER;

RA SHODAI K., HIESHIMA K., FUKUDA S., IIO M., MIURA R., IMAI T.,

RA YOSHIE O., NOMIYAMA H.;

RL BIOCHIM. BIOPHYS. ACTA 0:0-0(1998).

[3]

SEQUENCE FROM N.A.

RA NOMIYAMA H.;

RT "Structure of a region of 181 kb containing five CC chemokine

genes";

RL SUBMITTED (AUG-1998) TO EMBL/GENBANK/DBJ DATA BANKS.

[4]

SEQUENCE FROM N.A.

RX MEDLINE: 98308096.

RA YOUNG B.S., ZHANG S., BROXMEYER H.E., ANTOL K., FRASER M.J. JR.,

RA HANGOC G., KWON B.S.;

RT "Isolation and characterization of LMC, a novel lymphocyte and

monocyte chemoattractant human CC chemokine, with myelosuppressive

activity";

RT activity; BIOPHYS. RES. COMMUN. 247:217-222(1998).

RL EMBL; U91746; G2581781; -.

DR EMBL; AB007454; D1024563; -.

DR EMBL; AF088219; G3719365; -.

DR EMBL; AF055467; G3395776; -.

DR PFAM; PF00048; i18; 1.

KW SIGNAL.

SQ SEQUENCE 120 AA; 13600 MW; A079DF66 CRC32;

Db 74 EVCNPNDDWVQ 85

QY 1 ELCCLDPKENWVQ 12

RESULT 8 PRELIMINARY; PRT; 119 AA.

ID O00175

AC O00175

DT 01-JUL-1997 (TREMELREL. 04, CREATED)

DT 01-JUL-1997 (TREMELREL. 04, LAST SEQUENCE UPDATE)

DT 01-NOV-1998 (TREMELREL. 08, LAST ANNOTATION UPDATE)

DE MPF-2.

OS HOMO SAPIENS (HUMAN).

OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;

OC CATARRHINI; HOMINIDAE; HOMO.

[1]

SEQUENCE FROM N.A.

RA PATEL V.P., KREIDER B.L., LI Y., LI H., LEUNG K., SALCEDO T.,

RA NARDELLI B., PIPPA V., GENTZ S., THOTAKURA R., PARMELEE D.,

RA GENTZ R., GAROTTA G.;

RL J. EXP. MED. 0:0-0(0).

DR EMBL; U85768; G1916252; -.

DR PFAM; PF00048; i18; 1.

SQ SEQUENCE 119 AA; 13119 MW; CDF526F0 CRC32;

Query Match 68.7%; Score 68; DB 4; Length 119;

Best Local Similarity 58.3%; Pred. No. 2.11e-02;

Matches 7; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 72 QFCGDPKQEWVQ 83

QY 1 ELCCLDPKENWVQ 12

RESULT 9 PRELIMINARY; PRT; 80 AA.

ID Q14745

AC Q14745

DT 01-NOV-1996 (TREMELREL. 01, CREATED)

DT 01-NOV-1996 (TREMELREL. 01, LAST SEQUENCE UPDATE)

DT 01-JAN-1999 (TREMELREL. 09, LAST ANNOTATION UPDATE)

DE LD78 ALPHA BETA PRECURSOR (FRAGMENT).

OS HOMO SAPIENS (HUMAN).

OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;

OC CATARRHINI; HOMINIDAE; HOMO.

[1]

SEQUENCE FROM N.A.

RC TISSUE=BRIN;

RA ISHIZUKA K., IGATA-YI R., NARUSE K., NAKASHIMA H., OHUCHI K.,

RA KATSURAGI S., KIN Y., OHMOTO Y., NOMIYAMA H., IIO M., MIURA R.,

RA MIYAKAWA T.;

RL SUBMITTED (AUG-1995) TO EMBL/GENBANK/DBJ DATA BANKS.

DR EMBL; D63785; D1010501; -.

DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.

DR PFAM; PF00048; i18; 1.

KW SIGNAL.

FT NON_TER 1

FT SIGNAL <1

FT CHAIN 17

FT NON_TER 80

SQ SEQUENCE 80 AA; 8857 MW; 3F87F1C6 CRC32;

Query Match 66.7%; Score 66; DB 4; Length 80;

Best Local Similarity 58.3%; Pred. No. 5.60e-02;

Matches 7; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

Db 65 QVCADPSEEWVQ 76

QY 1 ELCCLDPKENWVQ 12

```

RESULT 10
ID O89093 PRELIMINARY; PRT; 97 AA.
AC O89093;
DT 01-NOV-1998 (TREMREL. 08, CREATED)
DT 01-NOV-1998 (TREMREL. 08, LAST SEQUENCE UPDATE)
DE 01-NOV-1998 (TREMREL. 08, LAST SEQUENCE UPDATE)
DE CC CHEMOKINE ST38 PRECURSOR.
GN LARC.
OS MUS MUSCULUS (MOUSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
OC SCIUROGNATHI; MURIDAE; MURINAE; MUS.
RN [1]
RP SEQUENCE FROM N.A.
RA UTANS-SCHNEITZ U., LOREZ H., KLINKERT W.E.F., DA SILVA J.,
RA LESSLAUER W.;
RT "A novel rat CC chemokine, identified by targeted differential
RT display, is upregulated in brain inflammation.";
RL J. NEUROIMMUNOL. 0:0-0(1998).
RN [2]
RP SEQUENCE FROM N.A.
RA VILLARES R.;
RL SUBMITTED (JUL-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL; AF053313; G3551819; -.
DR EMBL; AF007862; E1312757; -.
KW SIGNAL.
FT CHAIN 1 27 POTENTIAL.
FT CHAIN 28 97 CC CHEMOKINE ST38.
SQ SEQUENCE 97 AA; 10826 MW; 053405BD CRC32;

Query Match 65.7%; Score 65; DB 11; Length 97;
Best Local Similarity 70.0%; Pred. No. 9.07e-02;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 74 VCADPKQNV 83
QY 2 LCCLDPKENV 11
:|:|:|:|

RESULT 11
ID O73912 PRELIMINARY; PRT; 104 AA.
AC O73912;
DT 01-AUG-1998 (TREMREL. 07, CREATED)
DT 01-AUG-1998 (TREMREL. 07, LAST SEQUENCE UPDATE)
DE 01-AUG-1998 (TREMREL. 07, LAST SEQUENCE UPDATE)
DE K60 PROTEIN PRECURSOR.
GN K60.
OS GALLUS GALLUS (CHICKEN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; ARCHOSAURIA; AVES;
OC NEOGNATHAE; GALLIFORMES; PHASIANIDAE; PHASIANINAE; GALLUS.
RN [1]
RP SEQUENCE FROM N.A.
RA TISSUE-MACROPHAGE LIKE;
RA SICK C.;
RL SUBMITTED (AUG-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL; Y14971; E1295103; -.
KW SIGNAL.
FT CHAIN 1 20 POTENTIAL.
FT CHAIN 21 104 K60 PROTEIN.
SQ SEQUENCE 104 AA; 11199 MW; 40C2EF8A CRC32;

Query Match 65.7%; Score 65; DB 13; Length 104;
Best Local Similarity 63.6%; Pred. No. 9.07e-02;
Matches 7; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Db 75 EVCCLDPTAPKV 85
QY 1 EICCLDPKENV 11
:|:|:|:|

RESULT 12
ID P78423 PRELIMINARY; PRT; 397 AA.
AC P78423; O00672;

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DT 01-MAY-1997 (TREMREL. 03, CREATED)
DT 01-MAY-1997 (TREMREL. 03, LAST SEQUENCE UPDATE)
DE 01-NOV-1998 (TREMREL. 08, LAST ANNOTATION UPDATE)
DE CX3C CHEMOKINE PRECURSOR.
GN A-152ES.2.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RA MEDLINE; 97177111.
RA BAZAN J.F., BACON K.B., HARDIMAN G., WANG W., SOO K., ROSSI D.,
RA GRAVES D.R., ZLOTNIK A., SCHALL T.J.;
RT "A new class of membrane-bound chemokine with a CX3C motif.";
RL NATURE 385:640-644(1997).
RN [2]
RP SEQUENCE FROM N.A.
RA ADAMS M.D., LOFTUS B.J., ZHOU L., CROSBY M., FUHRMANN J., MASON T.M.,
RA BRANDON R., KIM U.J., KERLAVAGE A.R., VENTER J.C.;
RT "Homo sapiens Chromosome 16 BAC clone CIT987SK-A-152E5.";
RL SUBMITTED (JUN-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL; U91835; G1899259; -.
DR EMBL; U8487; G1888523; -.
DR EMBL; AC004382; G3252821; -.
DR PFAM; PF00048; 118; 1.
KW SIGNAL.
FT CHAIN 1 24 POTENTIAL.
FT CHAIN 25 397 CX3C CHEMOKINE.
SQ SEQUENCE 397 AA; 42202 MW; C8093D7D CRC32;

Query Match 63.6%; Score 63; DB 4; Length 397;
Best Local Similarity 70.0%; Pred. No. 2.34e-01;
Matches 7; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Db 73 FCADPKQNV 82
QY 2 LCCLDPKENV 11
:|:|:|:|

RESULT 13
ID O43168 PRELIMINARY; PRT; 455 AA.
AC O43168;
DT 01-NOV-1996 (TREMREL. 01, CREATED)
DT 01-NOV-1996 (TREMREL. 01, LAST SEQUENCE UPDATE)
DE 01-JAN-1999 (TREMREL. 09, LAST ANNOTATION UPDATE)
DE 1-AMINOCYCLOPROPANE-1-CARBOXYLATE SYNTHASE (EC 4.4.1.14)
DE (ACC SYNTHASE) (FRAGMENT).
OS SOLANUM TUBEROSUM (POTATO).
OC EUKARYOTA; VIRIDIPHYTES; STREPTOPHYTES; TRACHEOPHYTES;
OC EUPHYLLOPHYTES; SPERMATOPHYTES; MAGNOLIOPHYTES; EUDICOTYLEDONS;
OC ASTERIDAE; SOLANACEAE; SOLANACEAE; SOLANACEAE; SOLANUM.
RN [1]
RP SEQUENCE FROM N.A.
RA STRAIN-NORLAND; TISSUE=LEAVES;
RX MEDLINE; 95306794.
RA SCHLAGNAUFER C.D., GLICK R.E., ARTECA R.N., PELL E.J.;
RT "Expression of the CMS-associated urfs sequence in transgenic petunia
RT and tobacco.";
RL PLANT MOL. BIOL. 28:83-92(1995).
CC -!- CATALYTIC ACTIVITY: S-ADENOSYL-L-METHIONINE =
CC 1-AMINOCYCLOPROPANE-1-CARBOXYLATE + METHYLTHIOADENOSINE.
CC -!- COFACTOR: PYRIDOXAL-PHOSPHATE.
CC -!- COFACTOR: PYRIDOXAL-PHOSPHATE.
CC -!- SIMILARITY: BELONGS TO CLASS-I OF PYRIDOXAL-PHOSPHATE-DEPENDENT
CC AMINOTRANSFERASES.
DR EMBL; L20634; G927207; -.
DR PROSITE; PS00105; AA_TRANSFER_CLASS_1; 1.
DR PFAM; PF00155; aminotran_1; 1.
DR MENDEL; 10716; Soltu; ACS; 4.
KW LYASE; PYRIDOXAL PHOSPHATE.
FT NON_TER 1
FT SEQUENCE 455 AA; 51509 MW; 2C65C534 CRC32;

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US-09-150-813-40.rspt

Sat Feb 5 15:13:52 2000

Query Match 63.6%; Score 63; DB 10; Length 455;
 Best Local Similarity 54.5%; Pred. No. 2.34e-01;
 Matches 6; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

Db 26 QICLDLIEDWI 36
 :|||||:|:|:
 QY 1 ELCLDPKENWV 11

RESULT 14
 ID P94005 PRELIMINARY; PRT; 477 AA.
 AC 01-MAY-1997 (TREMBREL. 03, LAST SEQUENCE UPDATE)
 DT 01-MAY-1997 (TREMBREL. 03, LAST SEQUENCE UPDATE)
 DT 01-JAN-1999 (TREMBREL. 09, LAST ANNOTATION UPDATE)
 DE 1-AMINOCYCLOPROPANE 1-CARBOXYLATE SYNTHASE (EC 4.4.1.14)
 DE (1-AMINOCYCLOPROPANE-1-CARBOXYLATE SYNTHASE) (ACC SYNTHASE)
 DE (FRAGMENT).
 OS LYCOPERSICON ESCULENTUM (TOMATO).
 OC EUKARYOTA; VIRIDIPANTAE; STREPTOPHYTA; EMBRYOPHYTA; TRACHEOPHYTA;
 OC EUPHYLLOPHYTES; SPERMATOPHYTA; MAGNOLIOPHYTA; EUDICOTYLEDONS;
 OC ASTERIDAE; SOLANACEAE; SOLANACEAE; SOLANACEAE; SOLANUM.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=CV. PIKRED; TISSUE=PERICARP;
 RX MEDLINE: 94165094.
 RA LI N., WIESMAN Z., LIU D., MATTOO A.K.;
 RT "Deletion of the carboxyl-terminal region of
 1-aminocyclopropane-1-carboxylic acid synthase, a key protein in the
 biosynthesis of ethylene, results in catalytically hyperactive,
 monomeric enzyme.";
 RT J. BIOL. CHEM. 269:6908-6917(1994).
 RN [2]
 RP SEQUENCE OF 207-295 FROM N.A.
 RC TISSUE=PERICARP;
 RX MEDLINE: 92196141.
 RA YIP W.K., MOORE T., YANG S.F.;
 RT "Differential accumulation of transcripts for four tomato
 1-aminocyclopropane-1-carboxylate synthase homologs under various
 conditions.";
 RT PROC. NATL. ACAD. SCI. U.S.A. 89:2475-2479(1992).
 RL -1- CATALYTIC ACTIVITY: S-ADENOSYL-L-METHIONINE =
 1-AMINOCYCLOPROPANE-1-CARBOXYLATE + METHYLTHIOADENOSINE.
 CC -1- COFACTOR: PYRIDOXAL PHOSPHATE.
 CC -1- COFACTOR: PYRIDOXAL PHOSPHATE (BY SIMILARITY).
 CC -1- SIMILARITY: BELONGS TO CLASS-1 OF PYRIDOXAL-PHOSPHATE-DEPENDENT
 AMINOTRANSFERASES.
 DR EMBL: X62536; G19164; .
 DR EMBL: M83318; G867990; .
 DR PROSITE: PS00105; AA.TRANSFER_CLASS_1; 1.
 DR PFAM: PF00155; aminotran_1; 1
 DR MENDEL: 15548; LycEs; acc:mm15548.
 KW LYASE; PYRIDOXAL PHOSPHATE.
 FT NON_TER 1
 FT NON_TER 1
 SQ SEQUENCE 477 AA; 53784 MW; 6997FD75 CRC32;

Query Match 63.6%; Score 63; DB 10; Length 477;
 Best Local Similarity 54.5%; Pred. No. 2.34e-01;
 Matches 6; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

Db 49 QICLDLIEDWI 59
 :|||||:|:|:
 QY 1 ELCLDPKENWV 11

RESULT 15
 ID O64975 PRELIMINARY; PRT; 158 AA.
 AC O64975;
 DT 01-AUG-1998 (TREMBREL. 07, CREATED)
 DT 01-AUG-1998 (TREMBREL. 07, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMBREL. 08, LAST ANNOTATION UPDATE)
 DE PUTATIVE DISEASE RESISTANCE PROTEIN (FRAGMENT).
 DE ARABIDOPSIS THALIANA (MOUSE-EAR CRESS).
 OS

OC EUKARYOTA; VIRIDIPANTAE; STREPTOPHYTA; EMBRYOPHYTA; TRACHEOPHYTA;
 OC EUPHYLLOPHYTES; SPERMATOPHYTA; MAGNOLIOPHYTA; EUDICOTYLEDONS; ROSIDAE;
 OC CAPPARALE; BRASSICACEAE; ARABIDOPSIS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=CV. LANDSBERG ERECTA;
 RX MEDLINE: 98191999.
 RA AARTS M.G., TE LINTEL HEKKERT B., HOLUB E.B., BEYNON J.L.,
 RA STIEKEMA W.J., PEREIRA A.;
 RT "Identification of R-gene homologous DNA fragments genetically linked
 to disease resistance loci in Arabidopsis thaliana.";
 RL MOL. PLANT MICROBE INTERACT. 11:251-258(1998).
 DR EMBL: AF039381; G3075472; .
 FT NON_TER 1
 FT NON_TER 158
 FT NON_TER 158
 SQ SEQUENCE 158 AA; 18235 MW; 12D846C9 CRC32;

Query Match 62.6%; Score 62; DB 10; Length 158;
 Best Local Similarity 62.5%; Pred. No. 3.75e-01;
 Matches 5; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 121 CLDPREAW 128
 :|:|:|:|:
 QY 3 CLDPKENW 10

Search completed: Fri Feb 4 17:11:03 2000
 Job time : 55 secs.

 M P E R L E H
 (TM)

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MPSrch_pp protein - protein database search, using Smith-Waterman algorithm

Run on: Fri Feb 4 17:16:30 2000; MasPar time 5.03 Seconds
 130.268 Million cell updates/sec

Tabular output not generated.

Title: >US-09-150-813-41
 Description: (1-12) from US09150813.pep
 Perfect Score: 92
 Sequence: 1 EICLDPEAPFLK 12

Scoring table: PAM 150
 Gap 15

Searched: 179066 seqs, 54579741 residues

Post-processing: Minimum Match 0%
 Listing first 45 summaries

Database: sptrembl9
 1:sp-archaea 2:sp-bacteria 3:sp-fungi 4:sp-human
 5:sp-invertebrate 6:sp-mammal 7:sp-mhc 8:sp-ordanelle
 9:sp-phage 10:sp-plant 11:sp-rodent 12:sp-unclassified
 13:sp-vertebrate 14:sp-virus

Statistics: Mean 24.746; Variance 30.425; scale 0.813

pred. No. is the number of results predicted by chance to have a
 score greater than or equal to the score of the result being printed,
 and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match | Length | ID | Description | Pred. No. |
|------------|-------|-------------|--------|----|-------------------------|-----------|
| 1 | 64 | 69.6 | 101 | 13 | LFCA-1 PROTEIN PRECURS. | 2.63e-02 |
| 2 | 64 | 69.6 | 104 | 13 | K60 PROTEIN PRECURSOR. | 2.63e-02 |
| 3 | 63 | 68.5 | 59 | 6 | MELANOMA GROWTH STIMUL | 4.42e-02 |
| 4 | 62 | 67.4 | 103 | 6 | GRO. | 7.41e-02 |
| 5 | 62 | 67.4 | 427 | 2 | HYPOTHETICAL 48.6 KD P | 7.41e-02 |
| 6 | 58 | 63.0 | 314 | 2 | PUTATIVE ADP-L-GLYCERO | 5.57e-01 |
| 7 | 58 | 63.0 | 314 | 2 | OF22-1 PROTEIN. | 5.57e-01 |
| 8 | 57 | 62.0 | 225 | 2 | DNA FOR OTN REGION GEN | 5.57e-01 |
| 9 | 57 | 62.0 | 1198 | 3 | HYPOTHETICAL 25.8 KD P | 9.11e-01 |
| 10 | 56 | 60.9 | 66 | 6 | SIMILARITY TO UDP-GLUC | 9.11e-01 |
| 11 | 56 | 60.9 | 119 | 6 | PERMEABILITY FACTOR 2 | 1.48e+00 |
| 12 | 56 | 60.9 | 212 | 10 | TYPE IIA PROCOLLAGEN (| 1.48e+00 |
| 13 | 56 | 60.9 | 218 | 10 | SELF-INCOMPATIBILITY G | 1.48e+00 |
| 14 | 56 | 60.9 | 458 | 13 | SELF-INCOMPATIBILITY G | 1.48e+00 |
| 15 | 56 | 60.9 | 470 | 3 | DOPAMINE D1B RECEPTOR | 1.48e+00 |
| 16 | 56 | 60.9 | 1442 | 11 | HYPOTHETICAL 54.3 KD P | 1.48e+00 |
| 17 | 56 | 60.9 | 1442 | 11 | PRO-ALPHA-1 TYPE II CO | 1.48e+00 |
| 18 | 56 | 60.9 | 1442 | 11 | PRO-ALPHA-1 TYPE II CO | 1.48e+00 |
| 19 | 56 | 60.9 | 1459 | 11 | PRO-ALPHA-1 TYPE II CO | 1.48e+00 |
| 20 | 55 | 59.8 | 296 | 14 | DNA FOR ORF61 AND ORF6 | 2.39e+00 |

21 55 59.8 344 14 011293
 22 55 59.8 362 10 081811
 23 55 59.8 463 11 064282
 24 55 59.8 772 14 098211
 25 54 58.7 220 2 075435
 26 54 58.7 282 2 032497
 27 53 57.6 103 4 099227
 28 53 57.6 126 6 002797
 29 53 57.6 131 6 018871
 30 53 57.6 258 2 052292
 31 53 57.6 282 10 048628
 32 53 57.6 288 10 096463
 33 53 57.6 465 14 090729
 34 53 57.6 580 5 090696
 35 53 57.6 716 10 065717
 36 53 57.6 1036 5 094071
 37 53 57.6 1051 5 026055
 38 53 57.6 1174 5 026240
 39 53 57.6 1278 4 015118
 40 53 57.6 1487 4 014047
 41 53 57.6 1896 10 064604
 42 52 56.5 203 14 067634
 43 52 56.5 327 2 094875
 44 52 56.5 509 2 006958
 45 52 56.5 585 2 056403

ALIGNMENTS

RESULT 1
 ID O93442 PRELIMINARY; PRT; 101 AA.
 AC O93442;
 DT 01-NOV-1998 (TREMBLREL. 08, CREATED)
 DT 01-NOV-1998 (TREMBLREL. 08, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
 DE LFCA-1 PROTEIN PRECURSOR.
 OS LAMPETRA FLUVIATILIS (RIVER LAMPREY).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; CEPHALASPIDOMORPHI;
 OC PETROMYZONTIFORMES; PETROMYZONTIDAE; LAMPETRA.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=LEUKOCYTES;
 RA NAJAKSHIN A.M., MECHETINA L.V., ALABYEV B.Y., TARANTIN A.V.;
 RT "Identification of the interleukin 8 homologue in lamprey (Lampetra
 fluviatilis): early evolutionary divergence of chemokines.";
 RL SUBMITTED (JUL-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL; AJ231072; E1313821;
 KW SIGNAL.
 FT SIGNAL 1 22 POTENTIAL.
 FT CHAIN 23 101 LFCA-1 PROTEIN.
 SQ SEQUENCE 101 AA; 11095 MW; E4ALEZ0F CRC32;

Query Match 69.6%; Score 64; DB 13; Length 101;
 Best Local Similarity 50.0%; Pred. No. 2.63e-02;
 Matches 6; Conservative 5; Mismatches 1; Indels 0; Gaps 0;

Db 73 QICLNPDAPWVR 84

QY 1 EICLDPEAPFLK 12

RESULT 2 PRELIMINARY; PRT; 104 AA.

ID O73912
 AC O73912;
 DT 01-AUG-1998 (TREMBLREL. 07, CREATED)
 DT 01-AUG-1998 (TREMBLREL. 07, LAST SEQUENCE UPDATE)
 DT 01-AUG-1998 (TREMBLREL. 07, LAST ANNOTATION UPDATE)
 DE K60 PROTEIN PRECURSOR.
 GN K60.
 OS GALLUS GALLUS (CHICKEN).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; ARCHOSAURIA; AVES;
 OC NEOGNATHAE; GALLIFORMES; PHASIANIDAE; GALLUS.
 RN [1]

Sat Feb 5 15:13:56 2000

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DR EMBL; U47542; GI381034; -.
DR EMBL; AB012956; D1034551; -.
SQ SEQUENCE 314 AA; 35184 MW; 285DABD8 CRC32;

Query Match 63.0%; Score 58; DB 2; Length 314;
Best Local Similarity 77.8%; Pred.No. 5.57e-01;
Matches 7; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Db 104 CLDREIPFL 112
   ||| | |||
QY 3 CLDPEAPFL 11

RESULT 7
ID O87143 PRELIMINARY; PRT; 314 AA.
AC O87143;
DT 01-NOV-1998 (TREMBLREL. 08, CREATED)
DT 01-JAN-1999 (TREMBLREL. 09, LAST SEQUENCE UPDATE)
DT 01-JAN-1999 (TREMBLREL. 09, LAST ANNOTATION UPDATE)
DE OTF22-1 PROTEIN.
DE OTF22-1.
GN VIBRIO CHOLERAE.
OS VIBRIO CHOLERAE; GAMMA SUBDIVISION; VIBRIONACEAE; VIBRIO.
OC BACTERIA; PROTEOBACTERIA;
CN [1]
RN SEQUENCE FROM N.A.
RP STRAIN-O22;
RC YAMASAKI S., SHIMIZU T., HOSHINO K., HO S., SHIMADA T., NAIR G.B.,
RA TAKEDA Y.;
RT "The genes responsible for O-antigen synthesis of Vibrio cholerae
RL 0139 are closely related to those of Vibrio cholerae 022."
RL SUBMITTED (APR-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL; AB012957; D103474; -.
SQ SEQUENCE 314 AA; 35197 MW; BEAD8618 CRC32;

Query Match 63.0%; Score 58; DB 2; Length 314;
Best Local Similarity 77.8%; Pred.No. 5.57e-01;
Matches 7; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Db 104 CLDREIPFL 112
   ||| | |||
QY 3 CLDPEAPFL 11

RESULT 8
ID O57098 PRELIMINARY; PRT; 314 AA.
AC O57098;
DT 01-NOV-1996 (TREMBLREL. 01, CREATED)
DT 01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE DNA FOR OTN REGION GENES.
DE READ OR OTF139-1.
GN VIBRIO CHOLERAE.
OS VIBRIO CHOLERAE; GAMMA SUBDIVISION; VIBRIONACEAE; VIBRIO.
OC BACTERIA; PROTEOBACTERIA;
CN [1]
RN SEQUENCE FROM N.A.
RP STRAIN-O13G;
RC MEDLINE; 96386047.
RA BIK E.M., BUNSCHOTEN A.E., CHANG A.C.Y., MOOI F.R.;
RT "Genetic organization and functional analysis of the otn DNA
RT essential for cell-wall polysaccharide synthesis in Vibrio cholerae
RT 0139."
RL MOL. MICROBIOL. 20:799-811(1996).
RN [2]
RN SEQUENCE FROM N.A.
RP STRAIN-O139;
RC VIMONT S., DUMONTIER S., ESCUYER V., BERCHE P.;
RA SUBMITTED (FEB-1996) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [3]
RN SEQUENCE FROM N.A.
RP STRAIN-MO45;
RC YAMASAKI S., SHIMIZU T., HOSHINO K., HO S., SHIMADA T., NAIR G.B.,
RA TAKEDA Y.;
RT "The genes responsible for O-antigen synthesis of Vibrio cholerae
RT 0139 are closely related to those of Vibrio cholerae 022."
RL SUBMITTED (APR-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL; X90547; E194949; -.

DR EMBL; U47542; GI381034; -.
DR EMBL; AB012956; D1034551; -.
SQ SEQUENCE 314 AA; 35184 MW; 285DABD8 CRC32;

Query Match 63.0%; Score 58; DB 2; Length 314;
Best Local Similarity 77.8%; Pred.No. 5.57e-01;
Matches 7; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Db 104 CLDREIPFL 112
   ||| | |||
QY 3 CLDPEAPFL 11

RESULT 9
ID P73989 PRELIMINARY; PRT; 225 AA.
AC P73989;
DT 01-FEB-1997 (TREMBLREL. 02, CREATED)
DT 01-FEB-1997 (TREMBLREL. 02, LAST SEQUENCE UPDATE)
DT 01-FEB-1999 (TREMBLREL. 09, LAST ANNOTATION UPDATE)
DE HYPOTHETICAL 25.8 KD PROTEIN.
DE SYNECHOCYSTIS SP. (STRAIN PCC 6803).
OS SYNECHOCYSTIS SP. (STRAIN PCC 6803).
OC BACTERIA; CYANOBACTERIA; CHROCOCCALES; SYNECHOCYSTIS.
CN [1]
RN SEQUENCE FROM N.A.
RP STRAIN-PCC6803;
RC TABATA S.;
RL SUBMITTED (JUN-1996) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [2]
RN SEQUENCE FROM N.A.
RP STRAIN-PCC6803;
RC MEDLINE; 97061201.
RA KANEKO T., SATO S., KOTANI H., TANAKA A., ASAMIZU E., NAKAMURA Y.,
RA MIYAJIMA N., HIROSAWA M., SUGIURA M., SASAMOTO S., KIMURA T.,
RA HOSOUCHI T., MATSUO A., MURAKI A., NAKAZAKI N., NARUO K., OKUMURA S.,
RA SHIMPO S., TAKEUCHI C., WADA T., WATANABE A., YAMADA M., YASUDA M.,
RA TABATA S.;
RT "Sequence analysis of the genome of the unicellular cyanobacterium
RT Synechocystis sp. PCC6803. II. Sequence determination of the entire
RT genome and assignment of potential protein-coding regions."
RL DNA RES. 3:109-136(1996).
DR EMBL; D90911; D1018792; -.
KW HYPOTHETICAL PROTEIN.
SQ SEQUENCE 225 AA; 25816 MW; 651089AA CRC32;

Query Match 62.0%; Score 57; DB 2; Length 225;
Best Local Similarity 36.4%; Pred.No. 9.11e-01;
Matches 4; Conservative 6; Mismatches 1; Indels 0; Gaps 0;

Db 48 QVCIDTDSPT 58
   :||| :|||
QY 1 EICLDPEAPFL 11

RESULT 10
ID Q06321 PRELIMINARY; PRT; 1198 AA.
AC Q06321;
DT 01-NOV-1996 (TREMBLREL. 01, CREATED)
DT 01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE SIMILARITY TO UDP-GLUCURONOSYLTRANSFERASES.
GN L9470.23.
OS SACCHAROMYCES CEREVISIAE (BAKER'S YEAST).
OC EUKARYOTA; FUNGI; ASCOMYCOTA; HEMIASCOMICETES; SACCHAROMYCETALES;
OC SACCHAROMYCETACEAE; SACCHAROMYCES.
RN [1]
RN SEQUENCE FROM N.A.
RP STRAIN-S288C (AB972);
RC MEDLINE; 97313267.
RA JOHNSTON M., HILLIER L., RILES L., ALBERMANN K., ANDRE B., ANSORGE W.,
RA BENES V., BRUCKNER M., DELIUS H., DUBOIS E., DUSTERHOEF A.,
RA ENTIAN K.D., FLOETH M., GOFFEAU A., HEBLING U., HEUMANN K., P.,
RA HEUSS-NEITZEL D., HILBERT H., HILGER F., KLEINE K., KOTTER P.,
RA LOUIS E.J., MESSENGUY F., MEWES H.W., MIOGSA T., MOSTL D.,

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RA MULLER-AUER S., NENTWICH U., OBERMAIER B., PIRAVANDI E., POHL T.M.,
 RA PORTELE D., PURNELLE B., RECHMANN S., RIEGER M., RINKE M., ROSE M.,
 RA SCHARF M., SCHERNS B., SCHOLLER P., SCHWAGER C., SCHWARZ S.,
 RA UNDERWOOD A.P., URRESTARAZU L.A., VANDENBOL M., VERHASSELT P.,
 RA VIERENDEELS F., VOET M., VOLCKAERT G., VOSS H., WAMBITT R., WEDLER E.,
 RA WEDLER H., ZIMMERMANN F.K., ZOLLNER A., HANI J., HOEISEL J.D.,
 RT "The nucleotide sequence of Saccharomyces cerevisiae chromosome
 XII";
 RL NATURE 387:0-0(0).
 RN [2].
 RP SEQUENCE FROM N.A.
 RC STRAIN-S288C (AB972);
 RA WOLDMANN P.;
 RL SUBMITTED (NOV-1994) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [3].
 RP SEQUENCE FROM N.A.
 RC STRAIN-S288C (AB972);
 RA WATERSTON R.;
 RL SUBMITTED (NOV-1994) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [4].
 RP SEQUENCE FROM N.A.
 RC STRAIN-S288C (AB972);
 RA CHERRY J.M.;
 RL SUBMITTED (AUG-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL; U17246; G577215; -.
 DR PFAM; PF00169; PH; 1.
 KW TRANSFERASE.
 SQ SEQUENCE 1198 AA; 136053 MW; 9F764258 CRC32;

Query Match 62.0%; Score 57; DB 3; Length 1198;
 Best Local Similarity 54.5%; Pred. No. 9.11e-01;
 Matches 6; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

Db 193 FCLDQEPFLN 203
 :|||: |||:
 Qy 2 ICLDPEAPFLK 12

RESULT 11
 ID Q28724 PRELIMINARY; PRT; 66 AA.
 AC Q28724;
 DT 01-NOV-1996 (TREMBLREL. 01, CREATED)
 DT 01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)
 DE PERMEABILITY FACTOR 2 (FRAGMENT).
 GN RPF2.
 OS ORYCTOLAGUS CUNICULUS (RABBIT).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC LAGOMORPHA; LEPORIDAE; ORYCTOLAGUS.
 RN [1].
 RP SEQUENCE FROM N.A.
 RC STRAIN-NEW ZEALAND WHITE;
 RX MEDLINE; 95129889.
 RA JOHNSON M.C., GOODMAN R.B. II, KAJIKAWA O., WONG V.A., MONGOVIN S.M.,
 RA MARTIN T.R.;
 RT "Cloning of two rabbit GRO homologues and their expression in
 RT alveolar macrophages";
 RL GENE 151:337-338(1994).
 DR EMBL; L28933; G455343; -.
 DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
 DR PFAM; PF00048; I18; 1.
 FT NON_TER 1
 SQ SEQUENCE 66 AA; 7102 MW; D4C4BC7D CRC32;

Query Match 60.9%; Score 56; DB 6; Length 66;
 Best Local Similarity 58.3%; Pred. No. 1.48e+00;
 Matches 7; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

Db 42 EACLNPAPMKV 53
 :|||: |||:
 Qy 1 EICLDPEAPFLK 12

RESULT 12
 ID Q77753 PRELIMINARY; PRT; 119 AA.
 AC Q77753;
 DT 01-NOV-1998 (TREMBLREL. 08, CREATED)
 DT 01-NOV-1998 (TREMBLREL. 08, LAST SEQUENCE UPDATE)
 DE TYPE IIA PROCOLLAGEN (FRAGMENT).
 DE CANIS FAMILIARIS (DOG).
 OS EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC CARNIVORA; FISSIPEDIA; CANIDAE; CANIS.
 RN [1].
 RP SEQUENCE FROM N.A.
 RA DU F., AGLAND G.M., RAY J.;
 RT "Differential Expression of Type II Procollagen mRNA in Canine
 RT Retina";
 RL SUBMITTED (SEP-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL; AF023169; G3687592; -.
 DR PROSITE; PS01208; VWFC; 1.
 FT NON_TER 1
 FT NON_TER 119
 SQ SEQUENCE 119 AA; 12413 MW; 619469D2 CRC32;

Query Match 60.9%; Score 56; DB 6; Length 119;
 Best Local Similarity 75.0%; Pred. No. 1.48e+00;
 Matches 6; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

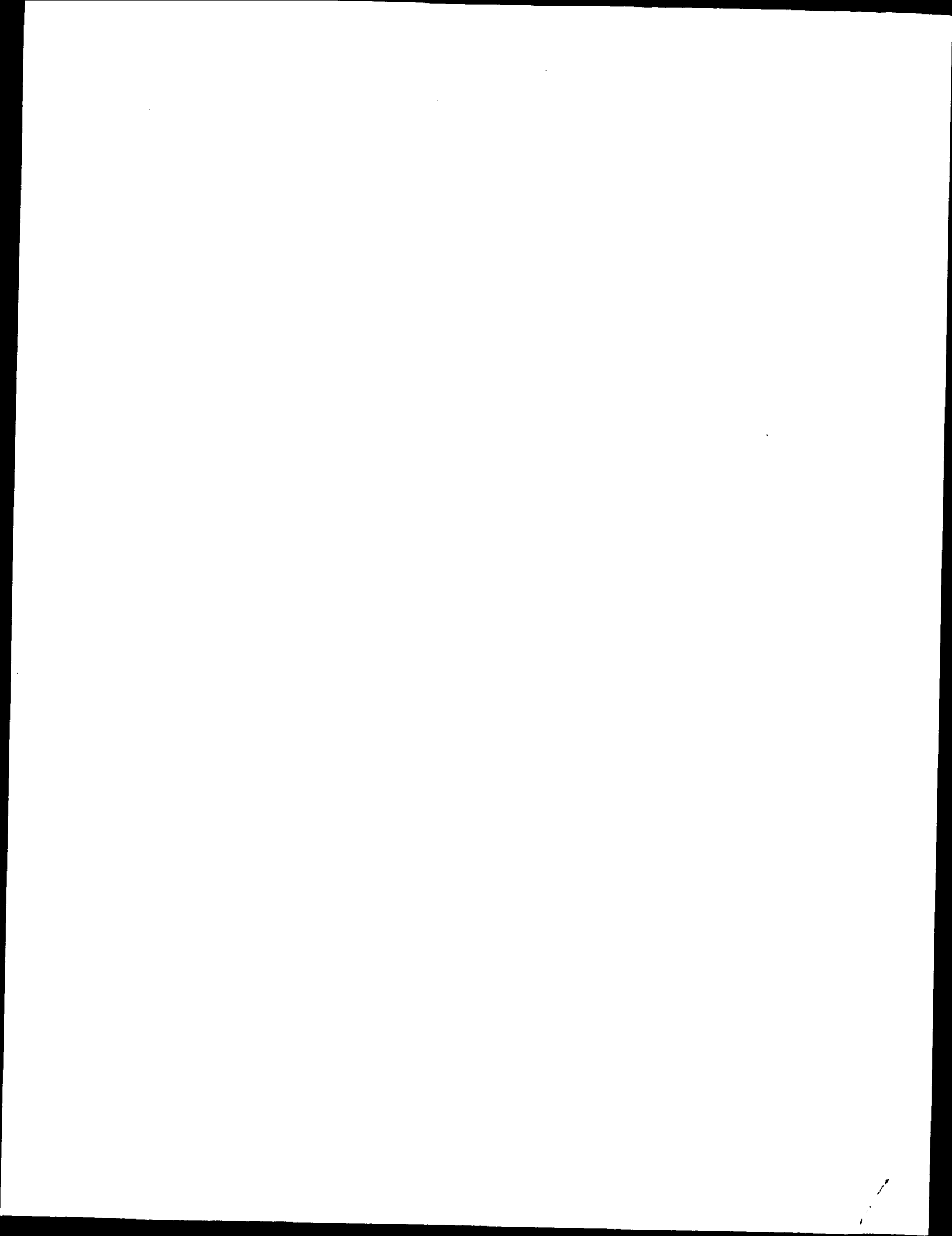
Db 58 CLSPETPF 65
 :|||: |||:
 Qy 3 CLDPEAPF 10

RESULT 13
 ID Q40243 PRELIMINARY; PRT; 212 AA.
 AC Q40243;
 DT 01-NOV-1996 (TREMBLREL. 01, CREATED)
 DT 01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)
 DE SELF-INCOMPATIBILITY GLYCOPROTEIN (ALLELE S6) PRECURSOR (FRAGMENT).
 OS LYCOPERSICON PERUVIANUM (PERUVIAN TOMATO).
 OC EUKARYOTA; VIRIDIPANTAE; STREPTOPHYTA; EMBRYOPHYTA; TRACHEOPHYTA;
 OC EUPHYLOPHYTES; SPERMATOPHYTA; MAGNOLIOPHYTA; EUDICOTYLEDONS;
 OC ASTERIDAE; SOLANACEAE; SOLANACEAE; SOLANUM.
 RN [1].
 RP SEQUENCE FROM N.A.
 RC STRAIN-LA 2163; TISSUE=STYLE;
 RX MEDLINE; 94294411.
 RA ROYO J., KUNZ C., KOWYAMA Y., ANDERSON M., NEWBIGIN E., CLARKE A.;
 RT "Loss of a histidine residue at the active site of S-locus
 RT ribonuclease is associated with self-compatibility in Lycopersicon
 RT peruvianum";
 RL PROC. NATL. ACAD. SCI. U.S.A. 91:6511-6514(1994).
 DR EMBL; Z26583; G404315; -.
 DR PFAM; PF00445; Ribonuclease_T2; 1.
 KW SIGNAL.
 FT NON_TER 1
 FT SIGNAL <1
 FT CHAIN 13
 FT CHAIN 212
 SQ SEQUENCE 212 AA; 24733 MW; 182D7702 CRC32;

Query Match 60.9%; Score 56; DB 10; Length 212;
 Best Local Similarity 77.8%; Pred. No. 1.48e+00;
 Matches 7; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 184 ICLDPEAPK 192
 :|||: |||:
 Qy 2 ICLDPEAPF 10

RESULT 14
 ID Q40245 PRELIMINARY; PRT; 218 AA.
 AC Q40245;
 DT 01-NOV-1996 (TREMBLREL. 01, CREATED)



 M P S R C H

 (TM)

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MPSrch_pp protein - protein database search, using Smith-Waterman algorithm
 Run on: Fri Feb 4 17:28:08 2000; MasPar time 5.07 Seconds
 129.163 Million cell updates/sec
 Tabular output not generated.

Title: >US-09-150-813-43
 Description: (1-12) from US09150813.pep
 Perfect Score: 91
 Sequence: 1 QVCADPSESWQ 12

Scoring table: PAM 150
 Gap 15

Searched: 179066 seqs, 54579741 residues

Post-processing: Minimum Match 0%
 Listing first 45 summaries

Database: sprenb19
 1:sp_archaea 2:sp_bacteria 3:sp_fungi 4:sp_human
 5:sp_invertebrate 6:sp_mammal 7:sp_mhc 8:sp_organelle
 9:sp_phase 10:sp_plant 11:sp_rodent 12:sp_unclassified
 13:sp_vertebrate 14:sp_virus

Statistics: Mean 25.020; Variance 34.042; scale 0.735

Pred. No. is the number of results predicted by chance to have a
 score greater than or equal to the score of the result being printed,
 and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match | Length | ID | Description | Pred. No. |
|------------|-------|-------------|--------|----|------------------------|-----------|
| 1 | 86 | 94.5 | 80 | 4 | LD78 ALPHA BETA PRECUR | 1.64e-06 |
| 2 | 74 | 81.3 | 120 | 4 | IL-10-INDUCIBLE CHEMOK | 8.65e-04 |
| 3 | 73 | 80.2 | 95 | 14 | ORF K6. | 1.43e-03 |
| 4 | 70 | 76.9 | 133 | 11 | SMALL INDUCIBLE CYTOKI | 6.38e-03 |
| 5 | 70 | 76.9 | 133 | 11 | BETA CHEMOKINE EXODUS- | 2.76e-02 |
| 6 | 67 | 73.6 | 134 | 4 | BETA CHEMOKINE EXODUS- | 2.76e-02 |
| 7 | 67 | 73.6 | 395 | 11 | FRACTALKINE. | 2.76e-02 |
| 8 | 67 | 73.6 | 395 | 11 | NEUTROPHILIN. | 2.76e-02 |
| 9 | 66 | 72.5 | 97 | 11 | CC CHEMOKINE ST38 PREC | 4.47e-02 |
| 10 | 66 | 72.5 | 203 | 14 | ECO Q PROTEIN (FRAGMEN | 4.47e-02 |
| 11 | 65 | 71.4 | 91 | 4 | RANTES PRECURSOR. | 7.20e-02 |
| 12 | 65 | 71.4 | 119 | 4 | MP1F-2. | 7.20e-02 |
| 13 | 64 | 70.3 | 95 | 4 | CHEMOKINE EXODUS. | 1.16e-01 |
| 14 | 63 | 69.2 | 552 | 5 | RADIAL SPOKEHEAD. | 1.85e-01 |
| 15 | 62 | 68.1 | 92 | 11 | CC CHEMOKINE ABCD-1. | 2.94e-01 |
| 16 | 62 | 68.1 | 94 | 14 | CC CHEMOKINE ABCD-1. | 2.94e-01 |
| 17 | 62 | 68.1 | 96 | 11 | VMIP-1B. | 2.94e-01 |
| 18 | 62 | 68.1 | 96 | 11 | CC CHEMOKINE EXODUS. | 2.94e-01 |
| 19 | 61 | 67.0 | 104 | 13 | K60 PROTEIN PRECURSOR. | 4.67e-01 |
| 20 | 61 | 67.0 | 93 | 4 | MACROPHAGE-DERIVED CHE | 4.67e-01 |
| | | | 108 | 11 | EBI-1 LIGAND CHEMOKINE | 4.67e-01 |
| | | | 108 | 11 | | |

21 61 109 4 043927 CXK CHEMOKINE PRECURSOR 4.67e-01
 22 60 057411 LYMPHOTACTIN PRECURSOR 7.38e-01
 23 60 057411 LFCA-1 PROTEIN PRECURS 7.38e-01
 24 59 034423 CX3C CHEMOKINE PRECURS 1.16e+00
 25 58 034423 CX3C CHEMOKINE PRECURS 1.16e+00
 26 58 034423 CX3C CHEMOKINE PRECURS 1.16e+00
 27 58 034423 CX3C CHEMOKINE PRECURS 1.16e+00
 28 58 034423 CX3C CHEMOKINE PRECURS 1.16e+00
 29 58 034423 CX3C CHEMOKINE PRECURS 1.16e+00
 30 58 034423 CX3C CHEMOKINE PRECURS 1.16e+00
 31 58 034423 CX3C CHEMOKINE PRECURS 1.16e+00
 32 58 034423 CX3C CHEMOKINE PRECURS 1.16e+00
 33 58 034423 CX3C CHEMOKINE PRECURS 1.16e+00
 34 58 034423 CX3C CHEMOKINE PRECURS 1.16e+00
 35 58 034423 CX3C CHEMOKINE PRECURS 1.16e+00
 36 58 034423 CX3C CHEMOKINE PRECURS 1.16e+00
 37 58 034423 CX3C CHEMOKINE PRECURS 1.16e+00
 38 58 034423 CX3C CHEMOKINE PRECURS 1.16e+00
 39 58 034423 CX3C CHEMOKINE PRECURS 1.16e+00
 40 58 034423 CX3C CHEMOKINE PRECURS 1.16e+00
 41 58 034423 CX3C CHEMOKINE PRECURS 1.16e+00
 42 58 034423 CX3C CHEMOKINE PRECURS 1.16e+00
 43 58 034423 CX3C CHEMOKINE PRECURS 1.16e+00
 44 58 034423 CX3C CHEMOKINE PRECURS 1.16e+00
 45 58 034423 CX3C CHEMOKINE PRECURS 1.16e+00

ALIGNMENTS

RESULT 1 PRELIMINARY; PRT; 80 AA.
 ID Q14745
 AC Q14745
 DT 01-NOV-1996 (TREMBLREL. 01, CREATED)
 DT 01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)
 DT 01-JAN-1999 (TREMBLREL. 09, LAST ANNOTATION UPDATE)
 DE LD78 ALPHA BETA PRECURSOR (FRAGMENT).
 OS HOMO SAPIENS (HUMAN).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
 OC CATARRHINI; HOMINIDAE; HOMO.
 RN SEQUENCE FROM N.A.
 RP TISSUE-BRAIN;
 RC ISHIZUKA K., IGATA-YI R., NARUSE K., NAKASHIMA H., OHUCHI K.,
 RA KATSURAGI S., KIN Y., OHMOTO Y., NOMIYAMA H., IIO M., MIURA R.,
 RA MIYAKAWA T.;
 RL SUBMITTED (AUG-1995) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL; D63785; D1010501;
 DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
 DR PFAM; PF00048; 118; 1.
 KW SIGNAL.
 FT NON_TER 1 16
 FT SIGNAL <1 16
 FT CHAIN 17 >80
 FT NON_TER 80 80
 FT NON_TER 80 80
 SQ SEQUENCE 80 AA; 8857 MW; 3F87F1C6 CRC32;
 Query Match 94.5%; Score 86; DB 4; Length 80;
 Best Local Similarity 91.7%; Pred. No. 1.64e-06;
 Matches 11; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Db 65 QVCADPSESWQ 76
 QY 1 QVCADPSESWQ 12
 RESULT 2 PRELIMINARY; PRT; 120 AA.
 ID Q15467
 AC Q15467
 DT 01-JAN-1998 (TREMBLREL. 05, CREATED)
 DT 01-JAN-1998 (TREMBLREL. 05, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
 DE IL-10-INDUCIBLE CHEMOKINE.
 GN IL1NCK OR SCYA16.

OS HOMO SAPIENS (HUMAN).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
 OC CATARRHINI; HOMINIDAE; HOMO.
 RN [1]
 RN SEQUENCE FROM N.A.
 RA HEDRICK J.A., HELMS A., GORMAN D., ZLOTNIK A.;
 RL SUBMITTED (NOV-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [2]
 RN SEQUENCE FROM N.A.
 RC TISSUE=LIVER;
 RA SHOUDEI K., HIESHIMA K., FUKUDA S., IIO M., MIURA R., IMAI T.,
 RA YOSHIE O., NOMIYAMA H.;
 RL BIOCHIM. BIOPHYS. ACTA 0:0-0(1998).
 RN [3]
 RN SEQUENCE FROM N.A.
 RA NOMIYAMA H.;
 RA "Structure of a region of 181 kb containing five CC chemokine
 RT genes";
 RL SUBMITTED (AUG-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [4]
 RN SEQUENCE FROM N.A.
 RX MEDLINE; 98308096.
 RA YOUN B.S., ZHANG S., BROXMEYER H.E., ANTOL K., FRASER M.J. JR.,
 RA HANGOC G., KWON B.S.;
 RT "Isolation and characterization of LMC, a novel lymphocyte and
 RT monocyte chemoattractant human CC chemokine, with myelosuppressive
 RT activity";
 RL BIOCHEM. BIOPHYS. RES. COMMUN. 247:217-222(1998).
 DR EMBL; U91746; G2581781; -;
 DR EMBL; AB007454; D1024963; -;
 DR EMBL; AF088219; G3719365; -;
 DR EMBL; AF055467; G3395776; -;
 DR PFAM; PF00048; i18; 1.
 KW SIGNAL.
 SQ SEQUENCE 120 AA; 13600 MW; A079DF66 CRC32;
 Query Match 81.3%; Score 74; DB 4; Length 120;
 Best Local Similarity 50.0%; Pred. No. 8.65e-04;
 Matches 6; Conservative 5; Mismatches 1; Indels 0; Gaps 0;
 Db 74 EVCTNPNDWVQ 85
 Qy 1 QVCADPSESVMQ 12
 :||:|:|:|
 RESULT 3
 ID Q98158 PRELIMINARY; PRT; 95 AA.
 AC Q98158; 012569;
 DT 01-FEB-1997 (TREMBLREL. 02, CREATED)
 DT 01-JUL-1997 (TREMBLREL. 04, LAST SEQUENCE UPDATE)
 DE ORF K6.
 OS KAPOSI'S SARCOMA-ASSOCIATED HERPESVIRUS.
 OC VIRUSES; DSDNA VIRUSES, NO RNA STAGE; HERPESVIRIDAE;
 OC GAMMAHERPESVIRINAE; RHADINOVIRUS.
 RN [1]
 RN SEQUENCE FROM N.A.
 RX MEDLINE; 97094384.
 RA MOORE P.S., BASHOFF C., WEISS R.A., CHANG Y.;
 RT "Molecular mimicry of human cytokine and cytokine response pathway
 RT genes by KSHV";
 RL SCIENCE 274:1739-1744(1996).
 RN [2]
 RN SEQUENCE FROM N.A.
 RX MEDLINE; 97121480.
 RA RUSSO J.J., BOHENZKY R.A., CHIEN M.C., CHEN J., YAN M., MADDALENA D.,
 RA PARRY J.P., PERUZZI D., EDELMAN I.S., CHANG Y., MOORE P.S.;
 RT "Nucleotide sequence of the Kaposi sarcoma-associated herpesvirus
 RT (HVS)";
 RL PROC. NATL. ACAD. SCI. U.S.A. 93:14862-14867(1996).
 RN [3]
 RN SEQUENCE FROM N.A.
 RA RUSSO J.J., BOHENZKY R.A., CHIEN M.C., CHEN J., YAN M., MADDALENA D.,

RA PARRY J.P., PERUZZI D., EDELMAN I.S., CHANG Y., MOORE P.S.;
 RN SUBMITTED (OCT-1996) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [4]
 RN SEQUENCE FROM N.A.
 RA NICHOLAS J., RUVOLO V.R., BURNS W.H., SANDFORD G., WAN X., CIUFO D.,
 RA HENDRICKSON S., GUO H.G., HAYWARD G.S., REITZ M.S.;
 RL SUBMITTED (NOV-1996) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [5]
 RN SEQUENCE FROM N.A.
 RA RUSSO J.J., BOHENZKY R.A., CHIEN M.C., CHEN J., YAN M., MADDALENA D.,
 RA PARRY J.P., PERUZZI D., EDELMAN I.S., CHANG Y., MOORE P.S.;
 RL SUBMITTED (MAY-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [6]
 RN SEQUENCE FROM N.A.
 RX MEDLINE; 97296220.
 RA NEIPEL F., ALBRECHT J.C., FLECKENSTEIN B.;
 RT "Cell-homologous genes in the Kaposi's sarcoma-associated
 RT rhadinovirus human herpesvirus 8: determinants of its
 RT pathogenicity";
 RL J. VIROL. 71:4187-4192(1997).
 RN [7]
 RN SEQUENCE FROM N.A.
 RA SUN R., LIN S.-F., MILLER G.;
 RL SUBMITTED (SEP-1996) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL; U75698; G1718266; -;
 DR EMBL; U74585; G1658273; -;
 DR EMBL; U93872; G2246546; -;
 DR EMBL; U71366; G3551763; -;
 DR PFAM; PF00048; i18; 1.
 KW HYPOTHETICAL PROTEIN.
 SQ SEQUENCE 95 AA; 10485 MW; 5283348D CRC32;
 Query Match 80.2%; Score 73; DB 14; Length 95;
 Best Local Similarity 66.7%; Pred. No. 1.43e-03;
 Matches 8; Conservative 3; Mismatches 1; Indels 0; Gaps 0;
 Db 74 QICADPSKNWVR 85
 Qy 1 QVCADPSESVMQ 12
 :||:|:|:|
 RESULT 4
 ID Q09002 PRELIMINARY; PRT; 133 AA.
 AC Q09002;
 DT 01-JUL-1997 (TREMBLREL. 04, CREATED)
 DT 01-JUL-1997 (TREMBLREL. 04, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
 DE SMALL INDUCIBLE CYTOKINE A21 (TCA4).
 GN SCYA21
 OS MUS MUSCULUS (MOUSE).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
 OC SCIUROGNATHI; MURIDAE; MURINAE; MUS.
 RN [1]
 RN SEQUENCE FROM N.A.
 RC TISSUE=THYMUS;
 RA TANABE S., LU Z., LUO Y., QUACKENBUSH E.J., BERMAN M.A.,
 RA COLLINS-RACIE L.A., MI S., REILLY C., LO D., JACORS K.A., DORF M.E.;
 RL SUBMITTED (JUN-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [2]
 RN SEQUENCE FROM N.A.
 RX MEDLINE; 97400322.
 RA HEDRICK J.A., ZLOTNIK A.;
 RT "Identification and characterization of a novel beta chemokine
 RT containing six conserved cysteines";
 RL J. IMMUNOL. 159:1589-1593(1997).
 RN [3]
 RN SEQUENCE FROM N.A.
 RA HEDRICK J.A., ZLOTNIK A.;
 RL SUBMITTED (MAY-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL; AF006637; G2209189; -;
 DR EMBL; AF001980; G2624927; -;
 DR MGI; MGI:1097677; SCYA21.
 DR PFAM; PF00048; i18; 1.

SQ SEQUENCE 133 AA; 14558 MW; C0532523 CRC32;

Query Match 76.9%; Score 70; DB 11; Length 133;
Best Local Similarity 58.3%; Pred. No. 6.38e-03;
Matches 7; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 73 ELCANPEGWVQ 84
::|||:|:|
QY 1 QVCADPSESQVQ 12

RESULT 5 PRELIMINARY; PRT; 133 AA.

ID O09006
AC O09006; 04, CREATED)
DT 01-JUL-1997 (TREMELREL. 04, CREATED)
DT 01-AUG-1998 (TREMELREL. 07, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMELREL. 08, LAST ANNOTATION UPDATE)
DE BETA CHEMOKINE EXODUS-2.
GN SCYA21.
OS MUS MUSCULUS (MOUSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
OC SCIUROGNATHI; MURIDAE; MURINAE; MUS.
RN [1]

SEQUENCE FROM N.A.
RC TISSUE-TOTAL FETUS;
RX MEDLINE; 97444139.
RA HROMAS R., KIM C.H., KLEMSZ M., KRATHWOHL M., FIFE K., COOPER S.,
RA SCHNIZLEIN-BICK C., BROXMEYER H.E.;
RA "Isolation and characterization of Exodus-2, a novel C-C chemokine
with a unique 37-amino acid carboxyl-terminal extension.";
RT J. IMMUNOL. 159:2554-2558(1997).
RN [2]

SEQUENCE FROM N.A.
RC TISSUE-TOTAL FETUS;
RA HROMAS R.A.;
RL SUBMITTED (JUN-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL; U88322; G3169697;
DR MGD; MGI:1097677; SCYA21.
DR PFAM; PF00048; I18; 1.
SQ SEQUENCE 133 AA; 14600 MW; B34A5E22 CRC32;

Query Match 76.9%; Score 70; DB 11; Length 133;
Best Local Similarity 58.3%; Pred. No. 6.38e-03;
Matches 7; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 73 ELCANPEGWVQ 84
::|||:|:|
QY 1 QVCADPSESQVQ 12

RESULT 6 PRELIMINARY; PRT; 134 AA.

ID O00585;
AC O00585; 04, CREATED)
DT 01-JUL-1997 (TREMELREL. 04, CREATED)
DT 01-JUL-1997 (TREMELREL. 04, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMELREL. 08, LAST ANNOTATION UPDATE)
DE BETA CHEMOKINE EXODUS-2.
OS HOMO SAPIENS (HUMAN)
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC CATARRHINI; HOMINIDAE; HOMO.
RN [1]

SEQUENCE FROM N.A.
RA HROMAS R.A., GRAY P., KLEMSZ M., FIFE K., BROXMEYER H.;
RL SUBMITTED (JUN-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [2]

SEQUENCE FROM N.A.
RX MEDLINE; 97400322.
RA HEDRICK J.A., ZLOTNIK A.;
RA "Identification and characterization of a novel beta chemokine
containing six conserved cysteines.";
RT J. IMMUNOL. 159:1589-1593(1997).
RN [3]

SEQUENCE FROM N.A.

RA HEDRICK J.A., ZLOTNIK A.;
RL SUBMITTED (MAY-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [4]

SEQUENCE FROM N.A.
RA NAGIRA M., IMAI T., HIESHIMA K., KUSUDA J., RIDANPAA M., TAKAGI S.,
RA NISHIMURA M., KAKIZAKI M., NOMIYAMA H., YOSHIE O.;
RL SUBMITTED (AUG-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
DE EMBL; U88320; G2196920;
DR EMBL; AF001979; G2624925;
DR EMBL; AB002409; D1022673;
DR PFAM; PF00048; I18; 1.
SQ SEQUENCE 134 AA; 14646 MW; FE86A239 CRC32;

Query Match 73.6%; Score 67; DB 4; Length 134;
Best Local Similarity 66.7%; Pred. No. 2.76e-02;
Matches 8; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Db 73 ELCADPKELWVQ 84
::|||:|:|
QY 1 QVCADPSESQVQ 12

RESULT 7 PRELIMINARY; PRT; 395 AA.

ID O35933;
AC O35933; 05, CREATED)
DT 01-JAN-1998 (TREMELREL. 05, LAST SEQUENCE UPDATE)
DT 01-JAN-1998 (TREMELREL. 05, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMELREL. 08, LAST ANNOTATION UPDATE)
DE FRACALAKINE.
RN [1]

SEQUENCE FROM N.A.
RC STRAIN-BALB/C; TISSUE-BRAIN;
RA ROSSI D., HARDIMAN G., COPELAND N., GILBERT D.J., JENKINS N.,
RA ZLOTNIK A., BAZAN J.F.;
RL SUBMITTED (MAR-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL; U92565; G2459677;
DR PFAM; PF00048; I18; 1.
SQ SEQUENCE 395 AA; 42040 MW; 3997A113 CRC32;

Query Match 73.6%; Score 67; DB 11; Length 395;
Best Local Similarity 80.0%; Pred. No. 2.76e-02;
Matches 8; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Db 74 CADPKEKWVQ 83
|||:|:|
QY 3 CADPSESQVQ 12

RESULT 8 PRELIMINARY; PRT; 395 AA.

ID O35188;
AC O35188; 05, CREATED)
DT 01-JAN-1998 (TREMELREL. 05, LAST SEQUENCE UPDATE)
DT 01-JAN-1998 (TREMELREL. 05, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMELREL. 08, LAST ANNOTATION UPDATE)
DE NEUROTACTIN.
GN SCYD1.

MUS MUSCULUS (MOUSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
OC SCIUROGNATHI; MURIDAE; MURINAE; MUS.
RN [1]

SEQUENCE FROM N.A.
RX MEDLINE; 97320499.
RA PAN Y., CLARE L., HONG Z., DOLICH S., DEEDS J., GONZALO J., VATH J.,
RA GOSSELIN M., MA J., DUSSAULT B., WOLF B., ALPERIN A., CULPEPPER J.,
RA GUTIERREZ-RAMOS J.C., GEARING D.;
RA "Neurotactin, a membrane-anchored chemokine upregulated in brain
inflammation.";
RT NATURE 387:611-617(1997).
RL EMBL; AF010586; G2317698;
DR MGD; MGI:1097153; SCYD1.

DR PFAM: PF00048; 118; 1.
SQ SEQUENCE 395 AA; 42098 MW; E3CD0612 CRC32;
Query Match 73.6%; Score 67; DB 11; Length 395;
Best Local Similarity 80.0%; Pred. No. 2.76e-02;
Matches 8; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
Db 74 CADPKQKWQ 83
|||||
Qy 3 CADPSESQWQ 12
RESULT 9
ID O89093 PRELIMINARY; PRT; 97 AA.
AC O89093;
DT 01-NOV-1998 (TREMBLREL. 08, CREATED)
DT 01-NOV-1998 (TREMBLREL. 08, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST SEQUENCE UPDATE)
DE CC CHEMOKINE ST38 PRECURSOR.
GN LARC.
OS MUS MUSCULUS (MOUSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
OC SCIUROGNATHI; MURIDAE; MURINAE; MUS.
RN [1]
RP UTANS-SCHNEITZ U., LOREZ H., KLINKERT W.E.F., DA SILVA J.,
RA LESSLAUER W.;
RT "A novel rat CC chemokine, identified by targeted differential
display, is upregulated in brain inflammation.";
RL J. NEUROIMMUNOL. 0:0-0(1998).
RN [2]
RP SEQUENCE FROM N.A.
RA VILLARES R.;
RL SUBMITTED (JUL-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL; AF053313; G3551819; -;
DR EMBL; AJ007862; E1312757; -;
KW SIGNAL.
FT SIGNAL. 1 27 POTENTIAL.
FT CHAIN 28 97 CC CHEMOKINE ST38.
SQ SEQUENCE 97 AA; 10826 MW; 053405BD CRC32;
Query Match 72.5%; Score 66; DB 11; Length 97;
Best Local Similarity 70.0%; Pred. No. 4.47e-02;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;
Db 74 CADPKQKWQ 83
|||||
Qy 2 CADPSESQWQ 11
RESULT 10
ID O67634 PRELIMINARY; PRT; 203 AA.
AC O67634;
DT 01-NOV-1996 (TREMBLREL. 01, CREATED)
DT 01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST SEQUENCE UPDATE)
DE ECO Q PROTEIN (FRAGMENT)
OS GALLID HERPESVIRUS TYPE 1.
OC VIRUSES; DSDNA VIRUSES, NO RNA STAGE; HERPESVIRIDAE;
OC ALPHAHERPESVIRINAE; VARICELLOVIRUS.
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN-GA;
RX MEDLINE; 96074534.
RA PENG Q., ZENG M., BHUIYAN Z.A., UBUKATA E., TANAKA A., NONOYAMA M.,
SHIRAZI Y.;
RT "Isolation and characterization of Marek's disease virus (MDV) cDNAs
mapping to the BamHI-12, BamHI-Q2, and BamHI-L fragments of the MDV
genome from lymphoblastoid cells transformed and persistently
infected with MDV.";
RL VIROLOGY 213:590-599(1995).
DR EMBL; U34966; G1185444; -;
DR PFAM; PF00048; 118; 1.

FT NON_TER 1
SQ SEQUENCE 203 AA; 23132 MW; 887D04C3 CRC32;
Query Match 72.5%; Score 66; DB 14; Length 203;
Best Local Similarity 63.6%; Pred. No. 4.47e-02;
Matches 7; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
Db 145 VCDPEAPWQ 155
|||||
Qy 2 VCDPSESQWQ 12
RESULT 11
ID O43646 PRELIMINARY; PRT; 91 AA.
AC O43646;
DT 01-JUN-1998 (TREMBLREL. 06, CREATED)
DT 01-JUN-1998 (TREMBLREL. 06, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE RANTES PRECURSOR.
GN SCY5.
OS HOMO SAPIENS (HUMAN)
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RA JANG J.S., KIM B.E.;
RL SUBMITTED (JAN-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [2]
RP SEQUENCE FROM N.A.
RA NOMIYAMA H.;
RT "Structure of a region of 181 kb containing five CC chemokine
genes.";
RL SUBMITTED (AUG-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL; AF043341; G2905632; -;
DR EMBL; AF088219; G3719366; -;
DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
KW SIGNAL.
FT SIGNAL. 1 23 POTENTIAL.
FT CHAIN 24 91 RANTES.
SQ SEQUENCE 91 AA; 9990 MW; CF404FAD CRC32;
Query Match 71.4%; Score 65; DB 4; Length 91;
Best Local Similarity 58.3%; Pred. No. 7.20e-02;
Matches 7; Conservative 2; Mismatches 3; Indels 0; Gaps 0;
Db 71 QVCANPEKKWVR 82
|||||
Qy 1 QVCADPSESQWQ 12
RESULT 12
ID O00175 PRELIMINARY; PRT; 119 AA.
AC O00175;
DT 01-JUL-1997 (TREMBLREL. 04, CREATED)
DT 01-JUL-1997 (TREMBLREL. 04, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE MP1F-2.
OS HOMO SAPIENS (HUMAN)
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RA PATIL V.P., KREIDER B.L., LI Y., LI H., LEUNG K., SALCEDO T.,
RA NARDELLI B., PIPALLA V., GENTZ S., THOTAKURA R., PARMELEE D.,
RA GENTZ R., GAROTTA G.;
RL J. EXP. MED. 0:0-0(0).
DR EMBL; U85768; G1916252; -;
DR PFAM; PF00048; 118; 1.
SQ SEQUENCE 119 AA; 13119 MW; CDF526F0 CRC32;
Query Match 71.4%; Score 65; DB 4; Length 119;
Best Local Similarity 58.3%; Pred. No. 7.20e-02;
Matches 7; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

Db 72 QFCGPKQEWV 83
QY 1 QVCADPSESQV 12

RESULT 13
ID Q99664 PRELIMINARY; PRT; 95 AA.
AC Q99664;
DT 01-MAY-1997 (TREMBREL. 03, CREATED)
DT 01-MAY-1997 (TREMBREL. 03, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBREL. 08, LAST ANNOTATION UPDATE)
DE CHEMOKINE EXODUS.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE-PANCREAS;
RX MEDLINE; 97275143.
RA HROMAS R., GRAY P.W., CHANTRY D., GODISKA R., KRATHWOHL M., FIFE K.,
RA BELL G.I., TAKEDA J., ARONICA S., GORDON M., COOPER S.,
RA BROXMEYER H.E., KLEMSZ M.J.;
RT "cloning and characterization of exodus, a novel beta-chemokine.";
RL BLOOD 89:3315-3322(1997).
DR EMBL; U64197; GI778717; -.
DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
DR PFAM; PF00048; i18; 1.
SQ SEQUENCE 95 AA; 10691 MW; 1526B4C0 CRC32;

Query Match 70.3%; Score 64; DB 4; Length 95;
Best Local Similarity 60.0%; Pred. No. 1.16e-01;
Matches 6; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

Db 72 VCANPKQTV 81
QY 2 VCADESQSV 11

RESULT 14
ID Q46178 PRELIMINARY; PRT; 552 AA.
AC Q46178;
DT 01-JUN-1998 (TREMBREL. 06, CREATED)
DT 01-JUN-1998 (TREMBREL. 06, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBREL. 08, LAST ANNOTATION UPDATE)
DE RADIAL SPOKEHEAD.
OS STRONGYLOCENTROTUS PURPURATUS (PURPLE SEA URCHIN).
OC EUKARYOTA; METAZOA; ECHINODERMATA; ECHINOZOA; ECHINOIDEA; EUECHINOIDEA;
OC ECHINACEA; ECHINOIDA; STRONGYLOCENTROTIDAE; STRONGYLOCENTROTUS.
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE; 98119758.
RA GINGRAS D., GAGNON C.;
RT "Molecular cloning and characterization of a radial spoke head
protein of sea urchin sperm axonemes: involvement of the protein in
the regulation of sperm motility.";
RL MOL. BIOL. CELL 9:513-522(1998).
DR EMBL; U73123; G2905895; -.
SQ SEQUENCE 552 AA; 62723 MW; 898CFCCC CRC32;

Query Match 69.2%; Score 63; DB 5; Length 552;
Best Local Similarity 50.0%; Pred. No. 1.85e-01;
Matches 5; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 270 VCNEPGQPV 279
QY 2 VCADESQSV 11

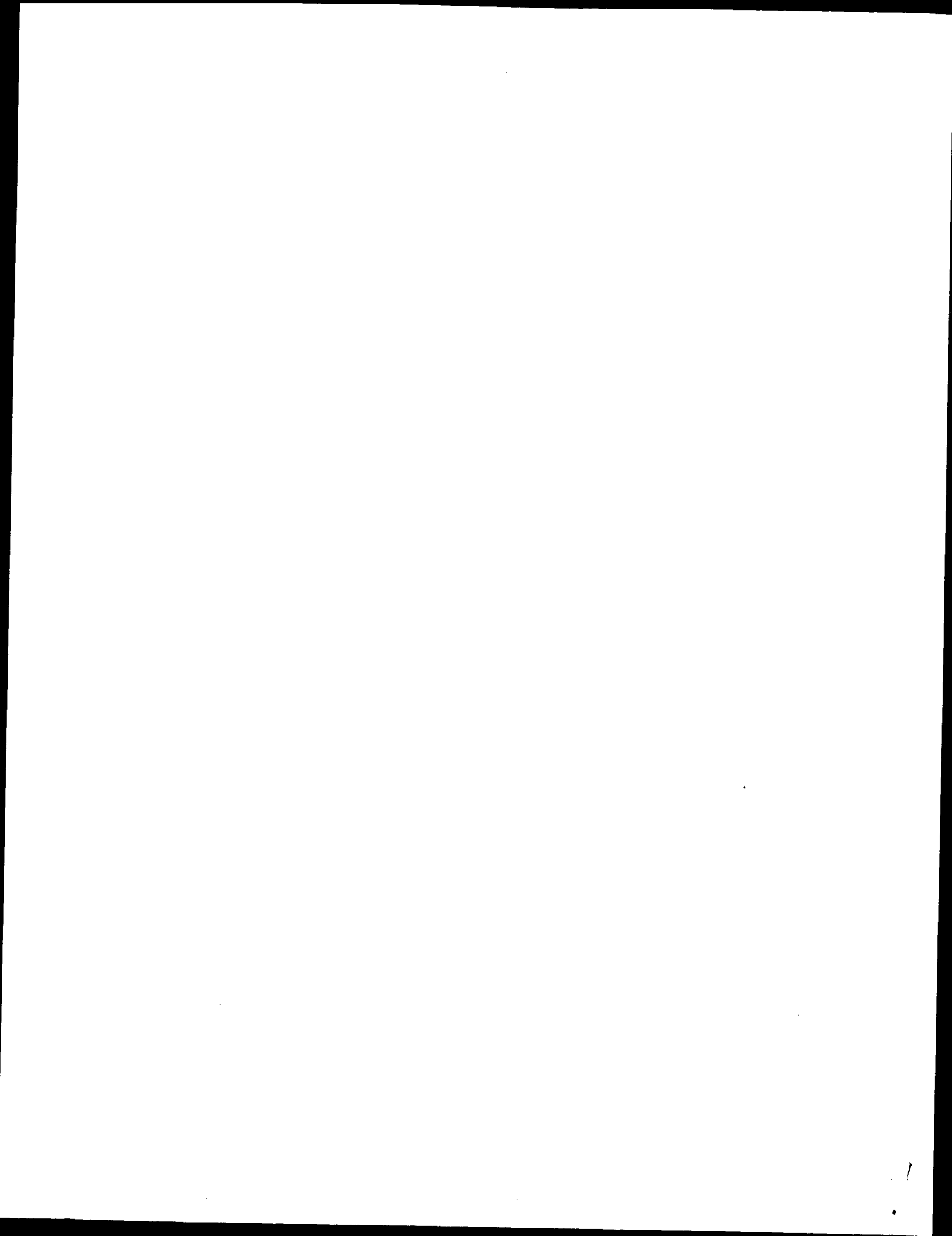
RESULT 15
ID Q88430 PRELIMINARY; PRT; 92 AA.
AC Q88430;
DT 01-NOV-1998 (TREMBREL. 08, CREATED)

DT 01-NOV-1998 (TREMBREL. 08, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBREL. 08, LAST ANNOTATION UPDATE)
DE CC CHEMOKINE ABCD-1.
OS MUS MUSCULUS (MOUSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
OC SCIUROGNATHI; MURIDAE; MURINAE; MUS.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE-LIVER;
RX MEDLINE; 98353531.
RA SCHANIEL C., PARDALI E., SALLUSTO F., SPELETAS M., RUEDL C.,
RA SHIMIZU T., SEIDL T., ANDERSSON J., MELCHERS F., ROLINK A.G.,
RA SIDERAS P.;
RT "Activated murine B lymphocytes and dendritic cells produce a novel
CC chemokine which acts selectively on activated T cells.";
RL J. EXP. MED. 188:451-463(1998).
DR EMBL; AF052505; G3378116; -.
SQ SEQUENCE 92 AA; 10302 MW; BC7219A0 CRC32;

Query Match 68.1%; Score 62; DB 11; Length 92;
Best Local Similarity 54.5%; Pred. No. 2.94e-01;
Matches 6; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

Db 74 DICADPROQVW 84
QY 1 QVCADPSESQV 11

Search completed: Fri Feb 4 17:29:06 2000
Job time : 58 secs.



W P S R E L H
(TM)

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MPsrch_pp protein - protein database search, using Smith-Waterman algorithm

Run on: Fri Feb 4 17:34:01 2000; Maspar time 5.10 Seconds
128.544 Million cell updates/sec

Tabular output not generated.

Title: >US-09-150-813-44
Description: (1-12) from US09150813.pep
Perfect Score: 91
Sequence: 1 QVCADPSESQVQ 12

Scoring table: PAM 150
Gap 15

Searched: 179066 seqs, 54579741 residues

Post-processing: Minimum Match 0%
Listing first 45 summaries

Database: sptrembl9
1:sp_archaea 2:sp_bacteria 3:sp_fungi 4:sp_human
5:sp_invertebrate 6:sp_mammal 7:sp_mhc 8:sp_oranelle
9:sp_phage 10:sp_plant 11:sp_rodent 12:sp_unclassified
13:sp_vertebrate 14:sp_virus

Statistics: Mean 25.020; Variance 34.042; scale 0.735

pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match | Length | DB ID | Description | Pred. No. |
|------------|-------|-------------|--------|-------|-------------|-----------|
| 1 | 86 | 94.5 | 80 | 4 | Q14745 | 1.64e-06 |
| 2 | 74 | 81.3 | 120 | 4 | O15467 | 8.65e-04 |
| 3 | 73 | 80.2 | 95 | 14 | O98158 | 1.43e-03 |
| 4 | 70 | 76.9 | 133 | 11 | O09002 | 6.38e-03 |
| 5 | 70 | 76.9 | 133 | 11 | O09006 | 6.38e-03 |
| 6 | 67 | 73.6 | 134 | 4 | O00585 | 2.76e-02 |
| 7 | 67 | 73.6 | 395 | 11 | O35933 | 2.76e-02 |
| 8 | 67 | 73.6 | 395 | 11 | O35188 | 2.76e-02 |
| 9 | 66 | 72.5 | 97 | 11 | O89093 | 4.47e-02 |
| 10 | 66 | 72.5 | 203 | 14 | Q67634 | 7.20e-02 |
| 11 | 65 | 71.4 | 91 | 4 | O43646 | 7.20e-02 |
| 12 | 65 | 71.4 | 119 | 4 | O00175 | 7.20e-02 |
| 13 | 64 | 70.3 | 95 | 4 | O99664 | 1.16e-01 |
| 14 | 63 | 69.2 | 552 | 5 | O46178 | 1.85e-01 |
| 15 | 62 | 68.1 | 92 | 11 | O88430 | 2.94e-01 |
| 16 | 62 | 68.1 | 94 | 14 | O98157 | 2.94e-01 |
| 17 | 62 | 68.1 | 96 | 11 | P97884 | 2.94e-01 |
| 18 | 62 | 68.1 | 104 | 13 | O73912 | 2.94e-01 |
| 19 | 61 | 67.0 | 93 | 4 | O00626 | 4.67e-01 |
| 20 | 61 | 67.0 | 108 | 11 | O70460 | 4.67e-01 |

| | | | | | | | |
|----|----|------|------|----|--------|-------------------------|----------|
| 21 | 61 | 67.0 | 109 | 4 | O43927 | CXC CHEMOKINE PRECURSOR | 4.67e-01 |
| 22 | 60 | 65.9 | 97 | 13 | O57411 | LYMPHOTACTIN PRECURSOR | 7.38e-01 |
| 23 | 60 | 65.9 | 101 | 13 | O93442 | LFCA-1 PROTEIN PRECURS | 7.38e-01 |
| 24 | 59 | 64.8 | 397 | 4 | P78423 | CX3C CHEMOKINE PRECURS | 1.16e+00 |
| 25 | 58 | 63.7 | 96 | 13 | Q90825 | CYTOKINE | 1.82e+00 |
| 26 | 58 | 63.7 | 97 | 6 | O62812 | INTERLEUKIN-8 (FRAGMEN | 1.82e+00 |
| 27 | 58 | 63.7 | 252 | 14 | P89687 | VIF PROTEIN. 57.1 KD P | 2.83e+00 |
| 28 | 57 | 62.6 | 529 | 2 | O06394 | HYPOTHETICAL 57.1 KD P | 2.83e+00 |
| 29 | 57 | 62.6 | 761 | 11 | O08762 | PROTEASE, SERINE, 12 N | 2.83e+00 |
| 30 | 56 | 61.5 | 350 | 11 | O09132 | PROTEIN TYROSINE KINAS | 4.39e+00 |
| 31 | 55 | 60.4 | 106 | 2 | O49811 | B2168 Cl_194. | 6.77e+00 |
| 32 | 55 | 60.4 | 377 | 3 | Q60088 | HYPOTHETICAL 41.6 KD P | 6.77e+00 |
| 33 | 54 | 59.3 | 549 | 4 | Q14296 | FAST KINASE | 1.04e+01 |
| 34 | 53 | 58.2 | 109 | 11 | O55038 | B LYMPHOCYTE CHEMOATTR | 1.59e+01 |
| 35 | 53 | 58.2 | 535 | 4 | Q15830 | MUTY HOMOLOG. | 1.59e+01 |
| 36 | 53 | 58.2 | 860 | 14 | O93091 | ENVELOPE GLYCOPROTEIN. | 1.59e+01 |
| 37 | 53 | 58.2 | 949 | 5 | P90956 | TOID3.3 PROTEIN. | 1.59e+01 |
| 38 | 53 | 58.2 | 1032 | 11 | Q62780 | RNA HELICASE. | 1.59e+01 |
| 39 | 53 | 58.2 | 1840 | 13 | Q90831 | TRANSITIN. | 1.59e+01 |
| 40 | 52 | 57.1 | 2180 | 5 | O01768 | SIMILARITY TO EGF-LIKE | 1.59e+01 |
| 41 | 52 | 57.1 | 253 | 2 | Q53582 | HYPOTHETICAL PROTEIN (| 2.41e+01 |
| 42 | 52 | 57.1 | 321 | 2 | O69128 | POTATIVE EPIMERASE/DEH | 2.41e+01 |
| 43 | 52 | 57.1 | 505 | 4 | O15375 | POTATIVE MONOCARBOXYLA | 2.41e+01 |
| 44 | 52 | 57.1 | 1200 | 2 | P73340 | CHROMOSOME SEGREGATION | 2.41e+01 |
| 45 | 52 | 57.1 | 1396 | 5 | P90865 | T24B8.7 PROTEIN. | 2.41e+01 |

ALIGNMENTS

| RESULT | 1 | PRELIMINARY: | PRT; | 80 AA. |
|--------|---|--------------|----------|------------------|
| ID | Q14745 | | | |
| AC | Q14745; | | | |
| DT | 01-NOV-1996 (TREMBLREL. 01, CREATED) | | | |
| DT | 01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE) | | | |
| DT | 01-JAN-1999 (TREMBLREL. 09, LAST ANNOTATION UPDATE) | | | |
| DE | LD78 ALPHA BETA PRECURSOR (FRAGMENT). | | | |
| OS | HOMO SAPIENS (HUMAN). | | | |
| OC | EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES; | | | |
| CC | CATARRHINI; HOMINIDAE; HOMO. | | | |
| RN | SEQUENCE FROM N.A. | | | |
| RP | TISSUE-BRAIN; | | | |
| RC | ISHIZUKA K., IGATA-YI R., NARUSE K., NAKASHIMA H., OHUCHI K., | | | |
| RA | KATSURAGI S., KIN Y., OHMOTO Y., NOMIYAMA H., IIO M., MIURA R., | | | |
| RA | MİYAKAWA T.; | | | |
| RL | SUBMITTED (AUG-1995) TO EMBL/GENBANK/DBJ DATA BANKS. | | | |
| DR | EMBL; D63785; D1010501; | | | |
| DR | PROSITE; P500472; SMALL_CYTOKINES_CC; 1. | | | |
| DR | PFAM; PF00048; 118; 1. | | | |
| KW | SIGNAL. | | | |
| FT | NON_TER | 1 | | POTENTIAL. |
| FT | SIGNAL | <1 | 16 | LD78 ALPHA BETA. |
| FT | CHAIN | 17 | >80 | |
| FT | NON_TER | 80 | 80 | |
| FT | SEQUENCE | 80 AA; | 8857 MW; | 3F87FLC6 CRC32; |

Query Match 94.5%; Score 86; DB 4; Length 80;
Best Local Similarity 91.7%; Pred. No. 1.64e-06;
Matches 11; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Db 65 QVCADPSESQVQ 76

Qy 1 QVCADPSESQVQ 12

RESULT 2 PRELIMINARY; PRT; 120 AA.

ID O15467; TREMBLREL. 05, CREATED)
AC O15467;
DT 01-JAN-1998 (TREMBLREL. 05, LAST SEQUENCE UPDATE)
DT 01-JAN-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE IL-10-INDUCIBLE CHEMOKINE.
GN ILINCK OR SCYAL6.

OS HOMO SAPIENS (HUMAN).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
 OC CATARRHINI; HOMINIDAE; HOMO.
 RN [1]
 RP SEQUENCE FROM N.A.
 RA HEDRICK J.A., HELMS A., GORMAN D., ZLOTNIK A.;
 RL SUBMITTED (NOV-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [2]
 RP SEQUENCE FROM N.A.
 RA SHODAI K., HIESHIMA K., FUKUDA S., IIO M., MIURA R., IMAI T.,
 RA YOSHIE O., NOMIYAMA H.;
 RL BIOCHIM. BIOPHYS. ACTA 0:0-0(1998).
 RN [3]
 RP SEQUENCE FROM N.A.
 RA NOMIYAMA H.;
 RL "Structure of a region of 181 kb containing five CC chemokine
 genes";
 RT SUBMITTED (AUG-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [4]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 98308096.
 RA YOUN B.S., ZHANG S., BROMMEYER H.E., ANTOL K., FRASER M.J. JR.,
 RA HANGOC G., KWON B.S.;
 RT "Isolation and characterization of LMC, a novel lymphocyte and
 monocyte chemoattractant human CC chemokine, with myelosuppressive
 activity";
 RT BIOCHEM. BIOPHYS. RES. COMMUN. 247:217-222(1998).
 DR EMBL; G2581781; -
 DR EMBL; AB007454; D1024963; -
 DR EMBL; AF088219; G3719365; -
 DR EMBL; AF055467; G3395776; -
 DR PFAM; PF000048; 118; 1.
 KW SIGNAL.
 SQ SEQUENCE 120 AA; 13600 MW; A079DF66 CRC32;
 Query Match 81.3%; Score 74; DB 4; Length 120;
 Best Local Similarity 50.0%; Pred. No. 8.65e-04;
 Matches 6; Conservative 5; Mismatches 1; Indels 0; Gaps 0;
 Db 74 EVCTNPDDWQ 85
 QY :|||:|:|:|:|
 1 QVCADPSESQVQ 12

RESULT 3
 ID Q98158 PRELIMINARY; PRT; 95 AA.
 AC Q98158; O12569;
 DT 01-FEB-1997 (TREMELREL. 02, CREATED)
 DT 01-JUL-1997 (TREMELREL. 04, LAST SEQUENCE UPDATE)
 DE ORF K6.
 DE 01-NOV-1998 (TREMELREL. 08, LAST ANNOTATION UPDATE)
 OS KAPOSI'S SARCOMA-ASSOCIATED HERPESVIRUS.
 OC VIRUSES; DSDNA VIRUSES, NO RNA STAGE; HERPESVIRIDAE;
 OC GAMMAHERPESVIRINAE; RHADINOVIRUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 97094384.
 RA MOORE P.S., BASHOFF C., WEISS R.A., CHANG Y.;
 RT "Molecular mimicry of human cytokine and cytokine response pathway
 genes by KSHV";
 RL SCIENCE 274:1739-1744(1996).
 RN [2]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 97121480.
 RA RUSSO J.J., BOHENZKY R.A., CHIEN M.C., CHEN J., YAN M., MADDALENA D.,
 RA PARRY J.P., PERUZZI D., EDELMAN I.S., CHANG Y., MOORE P.S.;
 RT "Nucleotide sequence of the Kaposi sarcoma-associated herpesvirus
 (HV8).";
 RL PROC. NATL. ACAD. SCI. U.S.A. 93:14862-14867(1996).
 RN [3]
 RP SEQUENCE FROM N.A.
 RA RUSSO J.J., BOHENZKY R.A., CHIEN M.C., CHEN J., YAN M., MADDALENA D.,

RA PARRY J.P., PERUZZI D., EDELMAN I.S., CHANG Y., MOORE P.S.;
 RL SUBMITTED (OCT-1996) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [4]
 RP SEQUENCE FROM N.A.
 RA NICHOLAS J., RUVOLO V.R., BURNS W.H., SANDFORD G., WAN X., CIUFO D.,
 RA HENDRICKSON S., GUO H.G., HAYWARD G.S., REITZ M.S.;
 RL SUBMITTED (NOV-1996) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [5]
 RP SEQUENCE FROM N.A.
 RA RUSSO J.J., BOHENZKY R.A., CHIEN M.C., CHEN J., YAN M., MADDALENA D.,
 RA PARRY J.P., PERUZZI D., EDELMAN I.S., CHANG Y., MOORE P.S.;
 RL SUBMITTED (MAY-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [6]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 97296220.
 RA NEIPEL F., ALBRECHT J.C., FLECKENSTEIN B.;
 RT "Cell-homologous genes in the Kaposi's sarcoma-associated
 rhadinovirus human herpesvirus 8: determinants of its
 pathogenicity?";
 RT J. VIROL. 71:4187-4192(1997).
 RN [7]
 RP SEQUENCE FROM N.A.
 RA SUN R., LIN S.-F., MILLER G.;
 RL SUBMITTED (SEP-1996) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL; U75698; G1718266; -
 DR EMBL; U74585; G1658273; -
 DR EMBL; U93872; G2246546; -
 DR EMBL; U71366; G3551763; -
 DR PFAM; PF00048; 118; 1.
 KW HYPOTHETICAL PROTEIN.
 SQ SEQUENCE 95 AA; 10485 MW; 5283348D CRC32;
 Query Match 80.2%; Score 73; DB 14; Length 95;
 Best Local Similarity 66.7%; Pred. No. 1.43e-03;
 Matches 8; Conservative 3; Mismatches 1; Indels 0; Gaps 0;
 Db 74 QICADPFSKNVR 85
 QY :|||:|:|:|:|
 1 QVCADPSESQVQ 12

RESULT 4
 ID C09002 PRELIMINARY; PRT; 133 AA.
 AC C09002;
 DT 01-JUL-1997 (TREMELREL. 04, CREATED)
 DT 01-JUL-1997 (TREMELREL. 04, LAST SEQUENCE UPDATE)
 DE SMALL INDUCIBLE CYTOKINE A21 (TCA4).
 GN SCYA21
 OS MUS MUSCULUS (MOUSE).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
 OC SCIUROGNATHI; MURIDAE; MURINAE; MUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE-THYMUS;
 RA TANABE S., LU Z., LUO Y., QUACKENBUSH E.J., BERMAN M.A.,
 RA COLLINS-RACIE L.A., MI S., REILLY C., LO D., JACOBS K.A., DORF M.E.;
 RL SUBMITTED (JUN-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [2]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 97400322.
 RA HEDRICK J.A., ZLOTNIK A.;
 RT "Identification and characterization of a novel beta chemokine
 containing six conserved cysteines";
 RL J. IMMUNOL. 159:1589-1593(1997).
 RN [3]
 RP SEQUENCE FROM N.A.
 RA HEDRICK J.A., ZLOTNIK A.;
 RL SUBMITTED (MAY-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL; AF006637; G2209189; -
 DR EMBL; AF001980; G2624927; -
 DR MGD; MGI:1097677; SCYA21.
 DR PFAM; PF00048; 118; 1.

US-09-150-813-44.rspt

Sat Feb 5 12:04:34 2000

SQ SEQUENCE 133 AA; 14558 MW; C0532523 CRC32;
 Query Match 76.9%; Score 70; DB 11; Length 133;
 Best Local Similarity 58.3%; Pred. No. 6.38e-03;
 Matches 7; Conservative 4; Mismatches 1; Indels 0; Gaps 0;
 Db 73 ELCANPEGWVQ 84
 Qy 1 QVCADPSESQVQ 12
 RESULT 5 PRELIMINARY; PRT; 133 AA.
 ID O09006
 AC O09006;
 DT 01-JUL-1997 (TREMBLREL. 04, CREATED)
 DT 01-AUG-1998 (TREMBLREL. 07, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
 DE BETA CHEMOKINE EXODUS-2.
 GN SCY21.
 OS MUS MUSCULUS (MOUSE).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
 OC SCIUROGNATHI; MURIDAE; MURINAE; MUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE-TOTAL FETUS;
 RX MEDLINE; 97444139.
 RA HROMAS R.A.; KLEMSZ M., KRATHWOHL M., FIFE K., COOPER S.,
 RA SCHNITZLEIN-BICK C., BROXMEYER H.E., a novel C-C chemokine
 RA "isolation and characterization of Exodus-2, a novel C-C chemokine
 RT with a unique 37-amino acid carboxyl-terminal extension.";
 RL J. IMMUNOL. 159:2554-2558(1997).
 RN [2]
 RP SEQUENCE FROM N.A.
 RC TISSUE-TOTAL FETUS;
 RA HROMAS R.A.;
 RL SUBMITTED (JUN-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL; U88322; G3169697;
 DR MGD; MGI:1097677; SCY21.
 DR PFAM; PF00048; i18; 1.
 SQ SEQUENCE 133 AA; 14600 MW; B34A5E22 CRC32;
 Query Match 76.9%; Score 70; DB 11; Length 133;
 Best Local Similarity 58.3%; Pred. No. 6.38e-03;
 Matches 7; Conservative 4; Mismatches 1; Indels 0; Gaps 0;
 Db 73 ELCANPEGWVQ 84
 Qy 1 QVCADPSESQVQ 12
 RESULT 6 PRELIMINARY; PRT; 134 AA.
 ID O00585;
 AC O00585;
 DT 01-JUL-1997 (TREMBLREL. 04, CREATED)
 DT 01-JUL-1997 (TREMBLREL. 04, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
 DE BETA CHEMOKINE EXODUS-2.
 OS HOMO SAPIENS (HUMAN)
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
 OC CATARRHINI; HOMINIDAE; HOMO.
 RN [1]
 RP SEQUENCE FROM N.A.
 RA HROMAS R.A.; GRAY P., KLEMSZ M., FIFE K., BROXMEYER H.;
 RL SUBMITTED (JUN-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [2]
 RP SEQUENCE FROM N.A.
 RA HEDRICK J.A.; ZLOTNIK A.;
 RX MEDLINE; 97400322.
 RA "Identification and characterization of a novel beta chemokine
 RT containing six conserved cysteines.";
 RL J. IMMUNOL. 159:1589-1593(1997).
 RN [3]
 RP SEQUENCE FROM N.A.
 RA HEDRICK J.A., ZLOTNIK A.;
 RL SUBMITTED (MAY-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [4]
 RP SEQUENCE FROM N.A.
 RA NAGIRA M., IMAI T., HIESHIMA K., KUSUDA J., RIDANPAA M., TAKAGI S.,
 RA NISHIMURA M., KATZAKI M., NOMIYAMA H., YOSHIE O.;
 RL SUBMITTED (AUG-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL; U88320; G2196920;
 DR EMBL; AF001979; G2624925;
 DR EMBL; AB002409; D1022673;
 DR PFAM; PF00048; i18; 1.
 SQ SEQUENCE 134 AA; 14646 MW; FE86A239 CRC32;
 Query Match 73.6%; Score 67; DB 4; Length 134;
 Best Local Similarity 66.7%; Pred. No. 2.76e-02;
 Matches 8; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
 Db 73 ELCADPKELWVQ 84
 Qy 1 QVCADPSESQVQ 12
 RESULT 7 PRELIMINARY; PRT; 395 AA.
 ID O35933;
 AC O35933;
 DT 01-JAN-1998 (TREMBLREL. 05, CREATED)
 DT 01-JAN-1998 (TREMBLREL. 05, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
 DE FRCTALKINE.
 OS MUS MUSCULUS (MOUSE).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
 OC SCIUROGNATHI; MURIDAE; MURINAE; MUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN-BALB/C; TISSUE-BRAIN;
 RA ROSSI D., HARDIMAN G., COPELAND N., GILBERT D.J., JENKINS N.,
 RA ZLOTNIK A., BAZAN J.F.;
 RL SUBMITTED (MAR-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL; U92565; G2459677;
 DR PFAM; PF00048; i18; 1.
 SQ SEQUENCE 395 AA; 42040 MW; 3997A113 CRC32;
 Query Match 73.6%; Score 67; DB 11; Length 395;
 Best Local Similarity 80.0%; Pred. No. 2.76e-02;
 Matches 8; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
 Db 74 CADPKKXWVQ 83
 Qy 3 CADPSESQVQ 12
 RESULT 8 PRELIMINARY; PRT; 395 AA.
 ID O35188;
 AC O35188;
 DT 01-JAN-1998 (TREMBLREL. 05, CREATED)
 DT 01-JAN-1998 (TREMBLREL. 05, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
 DE NEUROTACTIN.
 OS MUS MUSCULUS (MOUSE).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
 OC SCIUROGNATHI; MURIDAE; MURINAE; MUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RA PAN Y., CLARE L., HONG Z., DOLICH S., DEEDS J., GONZALO J., VATH J.,
 RA GOSSELIN M., MA J., DUSSAULT B., WOOLF B., ALPERIN A., CULPEPPER J.,
 RA GUTIERREZ-RAMOS J.C., GEARING D.;
 RA "Neurotactin, a membrane-anchored chemokine upregulated in brain
 RT inflammation.";
 RL NATURE 387:611-617(1997).
 DR EMBL; AF010586; G2317698;
 DR MGD; MGI:1097153; SCYD1.

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DR PFAM: PF00048; i18; 1.
SQ SEQUENCE 395 AA; 42098 MW; E3CD0612 CRC32;

Query Match
Best Local Similarity 80.0%; Score 67; DB 11; Length 395;
Matches 8; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Db 74 CADPKEKVVQ 83
||||| i |||
QY 3 CADPSESQVQ 12

RESULT 9
ID 089093 PRELIMINARY; PRT; 97 AA.
AC 089093;
DT 01-NOV-1998 (TREMBLREL. 08, CREATED)
DT 01-NOV-1998 (TREMBLREL. 08, LAST SEQUENCE UPDATE)
DE 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
CC CHEMOKINE ST38 PRECURSOR.
GN LARC.
OS MUS MUSCULUS (MOUSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
OC SCIUROGNATHI; MURIDAE; MURINAE; MUS.
RN [1]
RP SEQUENCE FROM N.A.
RA UTANS-SCHNEITZ U., LOREZ H., KLINKERT W.E.F., DA SILVA J.,
RA LESSLAUER W.;
RT "A novel rat CC chemokine, identified by targeted differential
RT display, is upregulated in brain inflammation.";
RL J. NEUROIMMUNOL. 0:0-0(1998).
RN [2]
RP SEQUENCE FROM N.A.
RA VILLARES R.;
RL SUBMITTED (JUL-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL: AF053313; G3551819; -
DR EMBL: AJ007862; E1312757; -
KW SIGNAL.
FT SIGNAL 1 27 POTENTIAL.
FT CHAIN 28 97 CC CHEMOKINE ST38.
SQ SEQUENCE 97 AA; 10826 MW; 053405BD CRC32;

Query Match
Best Local Similarity 72.5%; Score 66; DB 11; Length 97;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 74 VCADPKQNV 83
||||| :|||
QY 2 VCADPSESQV 11

RESULT 10
ID Q67634 PRELIMINARY; PRT; 203 AA.
AC Q67634;
DT 01-NOV-1996 (TREMBLREL. 01, CREATED)
DT 01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)
DE ECO Q PROTEIN (FRAGMENT)
DE 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
OS GALLII HERPESVIRUS TYPE 1.
OS VIRUSES; DSDNA VIRUSES, NO RNA STAGE; HERPESVIRIDAE;
OC ALPHAHERPESVIRINAE; VARICELLOVIRUS.
RN [1]
RP SEQUENCE FROM N.A.
RX STRAIN-GA;
RX MEDLINE: 96074534.
RA PENG Q., ZENG M., SHUIYAN Z.A., UBUKATA E., TANAKA A., NONOVAMA M.,
RA SHIRAZI Y.;
RT "Isolation and characterization of Marek's disease virus (MDV) cDNAs
RT mapping to the BamHI-12, BamHI-02, and BamHI-L fragments of the MDV
RT genome from lymphoblastoid cells transformed and persistently
RL infected with MDV.";
RL VIROLOGY 213:590-599(1995).
DR PFAM: U34966; G1185444; -
DR PFAM: PF00048; i18; 1.

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ET NON_TER 1
SQ SEQUENCE 203 AA; 23132 MW; 887D04C3 CRC32;

Query Match
Best Local Similarity 72.5%; Score 66; DB 14; Length 203;
Matches 7; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Db 145 VCYDPEAPVQ 155
||||| :|||
QY 2 VCADPSESQVQ 12

RESULT 11
ID Q43646 PRELIMINARY; PRT; 91 AA.
AC Q43646;
DT 01-JUN-1998 (TREMBLREL. 06, CREATED)
DT 01-JUN-1998 (TREMBLREL. 06, LAST SEQUENCE UPDATE)
DE 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
GN SCYA5.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RA JANG J.S., KIM B.E.;
RL SUBMITTED (JAN-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [2]
RP SEQUENCE FROM N.A.
RA NOMIYAMA H.;
RT "Structure of a region of 181 kb containing five CC chemokine
RT genes";
RL SUBMITTED (AUG-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL: AF043341; G2905632; -
DR EMBL: AF088219; G3719366; -
DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
KW SIGNAL.
FT SIGNAL 1 23 POTENTIAL.
FT CHAIN 24 91 RANTES.
SQ SEQUENCE 91 AA; 9990 MW; CF404FAD CRC32;

Query Match
Best Local Similarity 71.4%; Score 65; DB 4; Length 91;
Matches 7; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

Db 71 QVCANPEKKWVR 82
||||| :|||
QY 1 QVCADPSESQVQ 12

RESULT 12
ID Q00175 PRELIMINARY; PRT; 119 AA.
AC Q00175;
DT 01-JUL-1997 (TREMBLREL. 04, CREATED)
DT 01-JUL-1997 (TREMBLREL. 04, LAST SEQUENCE UPDATE)
DE MPT-2.
DE 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RA PATEL V.P., KREIDER B.L., LI Y., LI H., LEUNG K., SALCEDO T.,
RA NARDELLI B., FIPFALLA V., GENTZ S., THOTAKURA R., PARMELEE D.,
RA GENTZ R., GAROTTA G.;
RL J. EXP. MED. 0:0-0(0).
DR EMBL: U85768; G1916252; -
DR PFAM: PF00048; i18; 1.
SQ SEQUENCE 119 AA; 13119 MW; CDF526F0 CRC32;

Query Match
Best Local Similarity 71.4%; Score 65; DB 4; Length 119;
Matches 7; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

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DT 01-NOV-1998 (TREMREL. 08, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMREL. 08, LAST ANNOTATION UPDATE)
 DE CC CHEMOKINE ABCD-1.
 OS MUS MUSCULUS (MOUSE).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
 OC SCIUROGNATHI; MURIDAE; MORINAE; MUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=LIVER:
 RX MEDLINE: 98353531.
 RA SCHANIEL C., PARDALI E., SALLUSTO F., SPELETAS M., RUEDL C.,
 RA SHIMIZU T., SEIDL T., ANDERSSON J., MELCHERS F., ROLINK A.G.,
 RA SIDERAS P.;
 RT "Activated murine B lymphocytes and dendritic cells produce a novel
 RT CC chemokine which acts selectively on activated T cells."
 RL J. EXP. MED. 188:451-463(1998).
 DR EMBL: AF052505; G3378116; -.
 SQ SEQUENCE 92 AA; 10302 MW; BC7219A0 CRC32;

Query Match 68.1%; Score 62; DB 11; Length 92;
 Best Local Similarity 54.5%; Pred. No. 2.94e-01;
 Matches 6; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

Db 74 DICADPROQWV 84
 QY 1 QVADPSESQV 11
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 Job time : 60 secs.

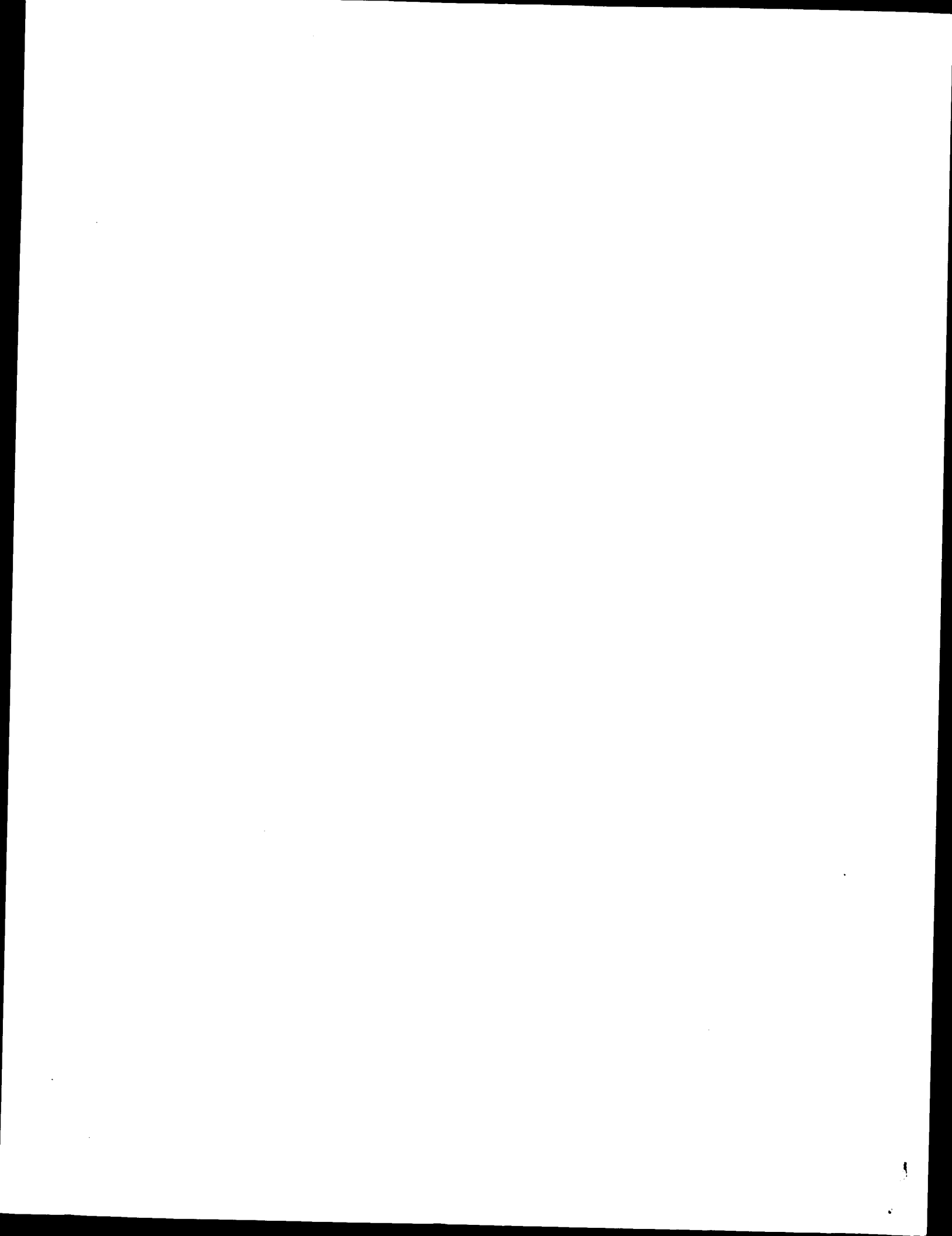
Db 72 QFCGDPKQEWQ 83
 QY 1 QVADPSESQV 12
 ::|||::|||
 RESULT 13
 ID Q99664 PRELIMINARY; PRT; 95 AA.
 AC Q99664;
 DT 01-MAY-1997 (TREMREL. 03, CREATED)
 DT 01-MAY-1997 (TREMREL. 03, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMREL. 08, LAST ANNOTATION UPDATE)
 DE CHEMOKINE EXODUS.
 OS HOMO SAPIENS (HUMAN).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
 OC CATARRHINI; HOMINIDAE; HOMO.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=PANCREAS;
 RX MEDLINE: 97275143.
 RA HROMAS R., GRAY P.W., CHANTRY D., GODISKA R., KRATHWOHL M., FIFE K.,
 RA BELL G.I., TAKEDA J., ARONICA S., GORDON M., COOPER S.,
 RA BROXMEYER H.E., KLEMSZ M.J.;
 RT "Cloning and characterization of exodus, a novel beta-chemokine."
 RL BLOOD 89:3315-3322(1997).
 DR EMBL: U64197; G1778717; -.
 DR PROSITE: PS00472; SMALL_CYTOKINES_CC; 1.
 DR PFAM: PF00048; i18; 1.
 SQ SEQUENCE 95 AA; 10691 MW; 1526B4C0 CRC32;

Query Match 70.3%; Score 64; DB 4; Length 95;
 Best Local Similarity 60.0%; Pred. No. 1.16e-01;
 Matches 6; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

Db 72 VCANPKQWV 81
 QY 2 VCADPSESQV 11
 ||||::||
 RESULT 14
 ID O46178 PRELIMINARY; PRT; 552 AA.
 AC O46178;
 DT 01-JUN-1998 (TREMREL. 06, CREATED)
 DT 01-JUN-1998 (TREMREL. 06, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMREL. 08, LAST ANNOTATION UPDATE)
 DE RADIAL SPOKEHEAD.
 OS STRONGYLOCENTROTUS PURPURATUS (PURPLE SEA URCHIN).
 OC EUKARYOTA; METAZOA; ECHINODERMATA; ECHINOZOA; ECHINOIDEA; EUECHINOIDEA;
 OC ECHINACEA; ECHINOIDA; STRONGYLOCENTROTIDAE; STRONGYLOCENTROTUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE: 98119758.
 RA GINGRAS D., GAGNON C.;
 RA "Molecular cloning and characterization of a radial spoke head
 RT protein of sea urchin sperm axonemes: involvement of the protein in
 RT the regulation of sperm motility."
 RL MOL. BIOL. CELL 9:513-522(1998).
 DR EMBL: U73123; G2905895; -.
 SQ SEQUENCE 552 AA; 62723 MW; 898CFCCC CRC32;

Query Match 69.2%; Score 63; DB 5; Length 552;
 Best Local Similarity 50.0%; Pred. No. 1.85e-01;
 Matches 5; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 270 VCNEPGQWV 279
 QY 2 VCADPSESQV 11
 ||::|||
 RESULT 15
 ID O88430 PRELIMINARY; PRT; 92 AA.
 AC O88430;
 DT 01-NOV-1998 (TREMREL. 08, CREATED)



(TM)

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MPSrch_pp protein - protein database search, using Smith-Waterman algorithm

Run on: Fri Feb 4 17:39:54 2000; MasPar time 5.06 Seconds

129.377 Million cell updates/sec

Tabular output not generated.

Title: >US-09-150-813-65

Description: (1-12) from US09150813.pep

Perfect Score: 96

Sequence: 1 EICADPKKWKVQ 12

Scoring table: PAM 150

Gap 15

Searched: 179066 seqs, 54579741 residues

Post-processing: Minimum Match 0%

Listing first 45 summaries

Database:

sptrembl9

1:sp-archaea 2:sp-bacteria 3:sp-fungi 4:sp-human

5:sp-invertebrate 6:sp-mammal 7:sp-mhc 8:sp-organelle

9:sp-phage 10:sp-plant 11:sp-rodent 12:sp_unclassified

13:sp-vertebrate 14:sp-virus

Statistics: Mean 25.653; Variance 35.991; scale 0.713

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match | Length | ID | Description | Pred. No. |
|------------|-------|-------------|--------|----|------------------------|-----------|
| 1 | 84 | 87.5 | 395 | 11 | NEUROTACTIN. | 1.61e-05 |
| 2 | 84 | 87.5 | 395 | 11 | FRACTALKINE. | 1.61e-05 |
| 3 | 79 | 82.3 | 134 | 4 | BETA CHEMOKINE EXODUS- | 2.02e-04 |
| 4 | 75 | 78.1 | 80 | 4 | LD78 ALPHA BETA PRECUR | 1.46e-03 |
| 5 | 74 | 77.1 | 120 | 4 | IL-10-INDUCIBLE CHEMOK | 2.37e-03 |
| 6 | 73 | 76.0 | 119 | 4 | MP1F-2. | 3.84e-03 |
| 7 | 72 | 75.0 | 97 | 11 | CC CHEMOKINE ST38 PREC | 6.22e-03 |
| 8 | 71 | 74.0 | 92 | 11 | CC CHEMOKINE ABCD-1. | 1.00e-02 |
| 9 | 70 | 72.9 | 397 | 4 | CX3C CHEMOKINE PRECURS | 2.58e-02 |
| 10 | 69 | 71.9 | 97 | 13 | LYMPHOTACTIN PRECURS | 2.58e-02 |
| 11 | 69 | 71.9 | 133 | 11 | BETA CHEMOKINE EXODUS | 2.58e-02 |
| 12 | 69 | 71.9 | 133 | 11 | SMALL INDUCIBLE CYTOKI | 4.12e-02 |
| 13 | 68 | 70.8 | 96 | 11 | CHEMOKINE EXODUS. | 4.12e-02 |
| 14 | 68 | 70.8 | 97 | 6 | INTERLEUKIN-8 (FRAGMEN | 4.12e-02 |
| 15 | 68 | 70.8 | 109 | 11 | B LYMPHOCYTE CHEMOATTR | 4.12e-02 |
| 16 | 67 | 69.8 | 91 | 4 | RANTES PRECURSOR. | 6.55e-02 |
| 17 | 67 | 69.8 | 91 | 4 | MACROPHAGE-DERIVED CHE | 6.55e-02 |
| 18 | 67 | 69.8 | 101 | 13 | CC CHEMOKINE-1. | 6.55e-02 |
| 19 | 67 | 69.8 | 95 | 14 | ORF K6. | 1.04e-01 |
| 20 | 66 | 68.8 | 95 | 14 | Q98158 | |

| | | | | | | | |
|----|----|------|-------|----|--------|-------------------------|----------|
| 21 | 66 | 68.8 | 760 | 3 | Q99126 | CHITIN SYNTHETASE I. | 1.04e-01 |
| 22 | 61 | 63.5 | 109 | 4 | Q43927 | CXC CHEMOKINE PRECURSOR | 9.82e-01 |
| 23 | 60 | 62.5 | 203 | 14 | Q67634 | ECO Q PROTEIN (FRAGMEN | 1.52e+00 |
| 24 | 60 | 62.5 | 859 | 14 | Q97013 | ENVELOPE GLYCOPROTEIN | 1.52e+00 |
| 25 | 59 | 61.5 | 522 | 5 | Q61090 | SERINE RICH PROTEIN HO | 2.34e+00 |
| 26 | 57 | 59.4 | 104 | 13 | Q73912 | K60 PROTEIN PRECURSOR. | 5.49e+00 |
| 27 | 57 | 59.4 | 178 | 2 | Q31562 | YF1T PROTEIN. | 5.49e+00 |
| 28 | 57 | 59.4 | 475 | 4 | Q60646 | HYPOTHETICAL 53.8 KD P | 5.49e+00 |
| 29 | 57 | 59.4 | 2276 | 2 | Q75050 | KIAA0462 PROTEIN (FRAG | 5.49e+00 |
| 30 | 56 | 58.3 | 928 | 2 | Q86395 | NP47 PROTEIN. | 8.34e+00 |
| 31 | 56 | 58.3 | 1224 | 5 | P91309 | CODED FOR BY C. ELEGAN | 8.34e+00 |
| 32 | 56 | 58.3 | 26926 | 4 | Q10466 | TITIN, HEART ISOFORM N | 8.34e+00 |
| 33 | 55 | 57.3 | 95 | 14 | Q75362 | ENVELOPE GLYCOPROTEIN | 1.26e+01 |
| 34 | 55 | 57.3 | 100 | 14 | Q40501 | ENVELOPE GLYCOPROTEIN | 1.26e+01 |
| 35 | 55 | 57.3 | 187 | 2 | Q83516 | HYPOTHETICAL 21.4 KD P | 1.26e+01 |
| 36 | 55 | 57.3 | 363 | 7 | Q95394 | MHC CLASS 1 PROTEIN MO | 1.26e+01 |
| 37 | 55 | 57.3 | 389 | 1 | Q58409 | 389AA LONG HYPOTHETICA | 1.26e+01 |
| 38 | 55 | 57.3 | 399 | 14 | Q68409 | ORF UL154. | 1.26e+01 |
| 39 | 55 | 57.3 | 854 | 14 | Q97016 | ENVELOPE GLYCOPROTEIN | 1.26e+01 |
| 40 | 55 | 57.3 | 854 | 14 | Q97016 | ENVELOPE GLYCOPROTEIN | 1.26e+01 |
| 41 | 54 | 56.3 | 306 | 5 | Q23084 | COSMID ZC8 | 1.90e+01 |
| 42 | 54 | 56.3 | 902 | 5 | Q93290 | C27D8.3 PROTEIN. | 1.90e+01 |
| 43 | 54 | 56.3 | 1053 | 2 | Q84834 | RIBONUCLEOSIDE REDUCTA | 1.90e+01 |
| 44 | 54 | 56.3 | 1396 | 5 | P90865 | T24B8.7 PROTEIN. | 1.90e+01 |
| 45 | 53 | 55.2 | 202 | 14 | Q89996 | ENVELOPE GLYCOPROTEIN | 2.84e+01 |

ALIGNMENTS

| | | | |
|--|---|------|---------|
| RESULT 1 | PRELIMINARY; | PRT; | 395 AA. |
| ID O35188 | | | |
| AC O35188; | | | |
| DT 01-JAN-1998 | (TREMBLREL. 05, CREATED) | | |
| DT 01-JAN-1998 | (TREMBLREL. 05, LAST SEQUENCE UPDATE) | | |
| DT 01-NOV-1998 | (TREMBLREL. 08, LAST ANNOTATION UPDATE) | | |
| DE NEUROTACTIN. | | | |
| GN SCYD1. | | | |
| OS MUS MUSCULUS (MOUSE). | | | |
| OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA; | | | |
| OC SCIUROGNATHI; MURIDAE; MURINAE; MUS. | | | |
| RN [1] | | | |
| RP SEQUENCE FROM N.A. | | | |
| RX MEDLINE; 97320499. | | | |
| RA PAN Y., CLARE L., HONG Z., DOLICH S., DEEDS J., GONZALO J., VATH J., | | | |
| RA GOSSSELIN M., MA J., DUSSAULT B., WOOLF B., ALPERIN A., CULPEPPER J., | | | |
| RA GUTIERREZ-RAMOS J.C., GEARING D.; | | | |
| RT "Neurotactin, a membrane-anchored chemokine upregulated in brain | | | |
| RT inflammation."; | | | |
| RL NATURE 387:611-617(1997). | | | |
| DR EMBL; AF010586; G2317698; -. | | | |
| DR MGD; MGI:1097153; SCYD1. | | | |
| DR PFAM; PF00048; i18; 1. | | | |
| DR SEQUENCE 395 AA; 42098 MW; E3CD0612 CRC32; | | | |
| Query Match 87.5%; Score 84; DB 11; Length 395; | | | |
| Best Local Similarity 90.9%; Pred. No. 1.61e-05; | | | |
| Matches 10; Conservative 1; Mismatches 0; Indels 0; Gaps 0; | | | |
| Db 73 FCADPKKWKVQ 83 | | | |
| QY 2 ICADPKKWKVQ 12 | | | |
| RESULT 2 | | | |
| ID O35933 | | | |
| AC O35933; | | | |
| DT 01-JAN-1998 | (TREMBLREL. 05, CREATED) | | |
| DT 01-JAN-1998 | (TREMBLREL. 05, LAST SEQUENCE UPDATE) | | |
| DT 01-NOV-1998 | (TREMBLREL. 08, LAST ANNOTATION UPDATE) | | |
| DE FRACTALKINE. | | | |
| OS MUS MUSCULUS (MOUSE). | | | |
| OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA; | | | |
| OC SCIUROGNATHI; MURIDAE; MURINAE; MUS. | | | |

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RN RP SEQUENCE FROM N.A.
RC STRAIN=BALB/C; TISSUE=BRAIN;
RA ROSSI D., HARDINAN G., COPELAND N., GILBERT D.J., JENKINS N.,
RA ZLOTNIK A., BAZAN J.F.;
RL SUBMITTED (MAR-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL; U92565; G2459677; -
DR PFAM; PF00048; i18; 1.
SQ SEQUENCE 395 AA; 42040 MW; 3997A113 CRC32;

Query Match
Best Local Similarity 87.5%; Score 84; DB 11; Length 395;
Matches 10; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Db 73 FCADPKKRWQ 83
QY 2 ICADPKKRWQ 12

RESULT 3
ID O00585; PRELIMINARY; PRT; 134 AA.
AC O00585;
DT 01-JUL-1997 (TREMBLREL. 04, CREATED)
DT 01-JUL-1997 (TREMBLREL. 04, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE BETA CHEMOKINE EXODUS-2.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RA HROMAS R.A., GRAY P., KLEMSZ M., FIFE K., BROXMEYER H.;
RL SUBMITTED (JUN-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [2]
RP SEQUENCE FROM N.A.
RA HEDRICK J.A., ZLOTNIK A.;
RX MEDLINE; 97400322.
RT "Identification and characterization of a novel beta chemokine
containing six conserved cysteines.";
RL J. IMMUNOL. 159:1589-1593(1997).
RN [3]
RP SEQUENCE FROM N.A.
RA HEDRICK J.A., ZLOTNIK A.;
RL SUBMITTED (MAY-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [4]
RP SEQUENCE FROM N.A.
RA NAGIRA M., INAI T., HIESHIMA K., KUSUDA J., RIDANPAA M., TAKAGI S.,
RA NISHIMURA M., KAKIZAKI M., NOMIYAMA H., YOSHIE O.;
RL SUBMITTED (AUG-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL; U88320; G2196920; -
DR EMBL; AF001979; G2624925; -
DR EMBL; AB002409; D1022673; -
DR PFAM; PF00048; i18; 1.
SQ SEQUENCE 134 AA; 14646 MW; FE86A239 CRC32;

Query Match
Best Local Similarity 82.3%; Score 79; DB 4; Length 134;
Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 73 ELCAADPKELWQ 84
QY 1 EICADPKKRWQ 12

RESULT 4
ID Q14745; PRELIMINARY; PRT; 80 AA.
AC Q14745;
DT 01-NOV-1996 (TREMBLREL. 01, CREATED)
DT 01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)
DT 01-JAN-1999 (TREMBLREL. 09, LAST ANNOTATION UPDATE)
DE LD78 ALPHA BETA PRECURSOR (FRAGMENT).
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;

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OC CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=BRAIN;
RA ISHIZUKA K., IGATA-YI R., NARUSE K., NAKASHIMA H., OHUCHI K.,
RA KATSURAGI S., KIN Y., OHMOTO Y., NOMIYAMA H., IIO M., MIURA R.,
RA MIYAKAWA T.;
RL SUBMITTED (AUG-1995) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL; D63785; D1010501; -
DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
DR PFAM; PF00048; i18; 1.
KW SIGNAL.
FT NON_TER 1 1
FT SIGNAL <1 16 POTENTIAL.
FT CHAIN 17 >80 LD78 ALPHA BETA.
FT NON_TER 80 80
SQ SEQUENCE 80 AA; 8857 MW; 3F87F1C6 CRC32;

Query Match
Best Local Similarity 78.1%; Score 75; DB 4; Length 80;
Matches 8; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Db 65 QVCADPSEWVQ 76
QY 1 EICADPKKRWQ 12

RESULT 5
ID O15467; PRELIMINARY; PRT; 120 AA.
AC O15467;
DT 01-JAN-1998 (TREMBLREL. 05, CREATED)
DT 01-JAN-1998 (TREMBLREL. 05, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE IL-10-INDUCIBLE CHEMOKINE.
GN ILINCK OR SCYAL6.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RA HEDRICK J.A., HELMS A., GORMAN D., ZLOTNIK A.;
RL SUBMITTED (NOV-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [2]
RP SEQUENCE FROM N.A.
RC TISSUE=LIVER;
RA SHOUJAI K., HIESHIMA K., FUKUDA S., IIO M., MIURA R., IMAI T.,
RA YOSHIE O., NOMIYAMA H.;
RL BIOCHIM. BIOPHYS. ACTA 0:0-0(1998).
RN [3]
RP SEQUENCE FROM N.A.
RA NOMIYAMA H.;
RT "Structure of a region of 181 kb containing five CC chemokine
genes.";
RT SUBMITTED (AUG-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [4]
RP SEQUENCE FROM N.A.
RX MEDLINE; 98308096.
RA YOUN B.S., ZHANG S., BROXMEYER H.E., ANTOL K., FRASER M.J. JR.,
RA HANGOC G., KWON B.S.;
RT "Isolation and characterization of LMC, a novel lymphocyte and
monocyte chemoattractant human CC chemokine, with myelosuppressive
activity.";
RL BIOCHEM. BIOPHYS. RES. COMMUN. 247:217-222(1998).
DR EMBL; U91746; G2581781; -
DR EMBL; AB007454; D1024963; -
DR EMBL; AF088219; G3719365; -
DR EMBL; AF055467; G3395776; -
DR PFAM; PF00048; i18; 1.
KW SIGNAL.
SQ SEQUENCE 120 AA; 13600 MW; A079DF66 CRC32;

Query Match
Best Local Similarity 77.1%; Score 74; DB 4; Length 120;
Matches 8; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

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Matches 6; Conservative 5; Mismatches 1; Indels 0; Gaps 0;

Db 74 EVCTNPDDWVQ 85
1 EICADPKKQVQ 12

RESULT 6 PRELIMINARY; PRT; 119 AA.

ID 000175
AC 000175;
DT 01-JUL-1997 (TREMBREL. 04, CREATED)
DT 01-JUL-1997 (TREMBREL. 04, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBREL. 08, LAST ANNOTATION UPDATE)
DE MPF-2.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC CATARRHINI; HOMINIDAE; HOMO.
RN SEQUENCE FROM N.A.
RP PATEL V.P., KREIDER B.L., LI Y., LI H., LEUNG K., SALCEDO T.,
RA NARDELLI B., PIPPALLA V., GENTZ S., THOTAKURA R., PARMELEE D.,
RA GENTZ R., GAROTTA G.,
RL J. EXP. MED. 0:0-0(0).
DR EMBL; U95768; G1916252; -.
DR PFAM; PF00048; i18; 1.
SQ SEQUENCE 119 AA; 13119 MW; CDF526F0 CRC32;

Query Match 76.0%; Score 73; DB 4; Length 119;
Best Local Similarity 58.3%; Pred. No. 3.84e-03;
Matches 7; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 72 QFCGDPKQEWVQ 83
1 EICADPKKQVQ 12

RESULT 7 PRELIMINARY; PRT; 97 AA.

ID 089093
AC 089093;
DT 01-NOV-1998 (TREMBREL. 08, CREATED)
DT 01-NOV-1998 (TREMBREL. 08, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBREL. 08, LAST ANNOTATION UPDATE)
DE CC CHEMOKINE ST38 PRECURSOR.
GN LARC.
OS MUS MUSCULUS (MOUSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
OC SCIUROGNATHI; MURIDAE; MURINAE; MUS.
RN SEQUENCE FROM N.A.
RP UTANS-SCHNEITZ U., LOREZ H., KLINKERT W.E.F., DA SILVA J.,
RA LESSLAUER W.,
RT "A novel rat CC chemokine, identified by targeted differential display, is upregulated in brain inflammation."
RL J. NEUROIMMUNOL. 0:0-0(1998).
RN SEQUENCE FROM N.A.
RP VILLARES R.,
RL SUBMITTED (JUL-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL; AF053313; G3551619; -.
DR EMBL; AJ007862; E1312757; -.
KW SIGNAL.
FT SIGNAL.
FT CHAIN 28 97
SQ SEQUENCE 97 AA; 10836 MW; 053405BD CRC32;

Query Match 75.0%; Score 72; DB 11; Length 97;
Best Local Similarity 70.0%; Pred. No. 6.22e-03;
Matches 7; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

Db 74 VCADPKQVW 83
2 ICADPKKQV 11

RESULT 8 PRELIMINARY; PRT; 92 AA.

ID 088430
AC 088430;
DT 01-NOV-1998 (TREMBREL. 08, CREATED)
DT 01-NOV-1998 (TREMBREL. 08, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBREL. 08, LAST ANNOTATION UPDATE)
DE CC CHEMOKINE ABCD-1.
OS MUS MUSCULUS (MOUSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
OC SCIUROGNATHI; MURIDAE; MURINAE; MUS.
RN SEQUENCE FROM N.A.
RP TISSUE-LIVER;
RC MEDLINE; 98353531.
RA SCHANIEL C., PARDALI E., SALLUSTO F., SPELETAS M., RUEDL C.,
RA SHIMIZU T., SEIDL T., ANDERSSON J., MELCHERS F., ROLINK A.G.,
RA SIDERAS P.,
RT "Activated murine B lymphocytes and dendritic cells produce a novel CC chemokine which acts selectively on activated T cells."
RL J. EXP. MED. 188:451-463(1998).
DR EMBL; AF052505; G3378116; -.
SQ SEQUENCE 92 AA; 10302 MW; BC7219A0 CRC32;

Query Match 74.0%; Score 71; DB 11; Length 92;
Best Local Similarity 63.6%; Pred. No. 1.00e-02;
Matches 7; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

Db 74 DICADPROVWV 84
1 EICADPKKQV 11

RESULT 9 PRELIMINARY; PRT; 397 AA.

ID P78423
AC P78423; 000672;
DT 01-MAY-1997 (TREMBREL. 03, CREATED)
DT 01-MAY-1997 (TREMBREL. 03, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBREL. 08, LAST ANNOTATION UPDATE)
DE CC CHEMOKINE PRECURSOR.
GN A-152E5.2.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC CATARRHINI; HOMINIDAE; HOMO.
RN SEQUENCE FROM N.A.
RP MEDLINE; 9717711.
RX BAZAN J.F., BACON K.B., HARDIMAN G., WANG W., SOO K., ROSSI D.,
RA GREAVES D.R., ZLOTNIK A., SCHALL T.J.,
RT "A new class of membrane-bound chemokine with a CX3C motif."
RL NATURE 385:640-644(1997).
RN SEQUENCE FROM N.A.
RP ADAMS M.D., LOFTUS B.J., ZHOU L., CROSBY M., FUHRMANN J., MASON T.M.,
RA BRANDON R., KIM U.J., KERLAVAGE A.R., VENTER J.C.,
RT "Homo sapiens Chromosome 16 BAC clone CIT987SK-A-152E5."
RL SUBMITTED (JUN-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL; U91835; G1899259; -.
DR EMBL; U84487; G1888523; -.
DR EMBL; AC004382; G3252821; -.
DR PFAM; PF00048; i18; 1.
KW SIGNAL.
FT SIGNAL 1 24
FT CHAIN 25 397
SQ SEQUENCE 397 AA; 42202 MW; C8093D7D CRC32;

Query Match 72.9%; Score 70; DB 4; Length 397;
Best Local Similarity 80.0%; Pred. No. 1.61e-02;
Matches 8; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 73 FCADPKQVW 82
2 ICADPKKQV 11

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RESULT 10
ID O57411 PRELIMINARY; PRT; 97 AA.
AC O57411;
DT 01-JUN-1998 (TREMREL. 06, CREATED)
DT 01-JUN-1998 (TREMREL. 06, LAST SEQUENCE UPDATE)
DE LYPHOTACTIN PRECURSOR.
OS GALLUS GALLUS (CHICKEN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; ARCHOSAURIA; AVES;
OC NEOGNATHAE; GALLIFORMES; PHASIANIDAE; PHASIANINAE; GALLUS.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=SPLEEN;
RA ROSSI D.L., BAZAN J.F., ZLOTNIK A.;
RL SUBMITTED (JUN-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL: AF006742; G2827882; -.
KW SIGNAL.
FT CHAIN 1 24 POTENTIAL.
FT CHAIN 25 97 LYMPHOTACTIN.
SQ SEQUENCE 97 AA; 11131 MW; 3290101C CRC32;

Query Match 71.9%; Score 69; DB 13; Length 97;
Best Local Similarity 63.8%; Pred. No. 2.58e-02;
Matches 7; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Db 72 ICVHPQKVVQ 82
QY 2 ICADPKKVVQ 12

RESULT 11
ID O09006 PRELIMINARY; PRT; 133 AA.
AC O09006;
DT 01-JUL-1997 (TREMREL. 04, CREATED)
DT 01-AUG-1998 (TREMREL. 07, LAST SEQUENCE UPDATE)
DE BETA CHEMOKINE EXODUS-2.
OS MUS MUSCULUS (MOUSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
OC SCIUROGNATHI; MURIDAE; MURINAE; MUS.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE-TOTAL FETUS;
RA HROMAS R.A.;
RL SUBMITTED (JUN-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL: G88322; G3169697; -.
DR MGD; MGI:1097677; SCYA21.
DR PFAM; PF00048; i18; 1.
SQ SEQUENCE 133 AA; 14600 MW; B34A5E22 CRC32;

Query Match 71.9%; Score 69; DB 11; Length 133;
Best Local Similarity 66.7%; Pred. No. 2.58e-02;
Matches 8; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Db 73 ELCANPEEGVVQ 84
QY 1 EICADPKKVVQ 12

RESULT 12
ID O09002 PRELIMINARY; PRT; 133 AA.
AC O09002;
DT 01-JUL-1997 (TREMREL. 04, CREATED)
DT 01-JUL-1997 (TREMREL. 04, LAST SEQUENCE UPDATE)
DE SMALL INDUCIBLE CYTOKINE A21 (TCA4).
OS MUS MUSCULUS (MOUSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
OC SCIUROGNATHI; MURIDAE; MURINAE; MUS.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=THYMUS;
RA TANABE S., LU Z., LUO Y., QUACKENBUSH E.J., BERMAN M.A.,
RA COLLINS-RACIE L.A., MI S., REILLY C., LO D., JACOBS K.A., DORF M.E.;
RL SUBMITTED (JUN-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL: AF006742; G2827882; -.
KW SIGNAL.
FT CHAIN 1 24 POTENTIAL.
FT CHAIN 25 97 LYMPHOTACTIN.
SQ SEQUENCE 97 AA; 11131 MW; 3290101C CRC32;

Query Match 71.9%; Score 69; DB 11; Length 133;
Best Local Similarity 66.7%; Pred. No. 2.58e-02;
Matches 8; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Db 73 ELCANPEEGVVQ 84
QY 1 EICADPKKVVQ 12

RESULT 13
ID O99664 PRELIMINARY; PRT; 95 AA.
AC O99664;
DT 01-MAY-1997 (TREMREL. 03, CREATED)
DT 01-MAY-1997 (TREMREL. 03, LAST SEQUENCE UPDATE)
DE CHEMOKINE EXODUS.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE-PANCREAS;
RA HROMAS R., GRAY P.W., CHANTRY D., GODISKA R., KRATHWOHL M., FIFE K.,
RA BELL G.I., TAKEDA J., ARONICA S., GORDON M., COOPER S.,
RA BROXMEYER H.E., KLEMSZ M.J.;
RT "Cloning and characterization of exodus, a novel beta-chemokine.";
RL BLOOD 89:3315-3322(1997).
DR EMBL; U64197; G1778717; -.
DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
DR PFAM; PF00048; i18; 1.
SQ SEQUENCE 95 AA; 10691 MW; 1526B4C0 CRC32;

Query Match 70.8%; Score 68; DB 4; Length 95;
Best Local Similarity 60.0%; Pred. No. 4.12e-02;
Matches 6; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

Db 72 VCANPKQTVW 81
QY 2 ICADPKKVVQ 11

```

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RESULT 14
ID P97884 PRELIMINARY; PRT; 96 AA.
AC P97884;
DT 01-MAY-1997 (TREMREL. 03, CREATED)
DT 01-MAY-1997 (TREMREL. 03, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMREL. 08, LAST ANNOTATION UPDATE)
DE CC CHEMOKINE EXODUS.
OS RATTUS NORVEGICUS (RAT).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
OC SCIUROGNATHI; MURIDAE; MURINAE; RATTUS.
RN [1]

SEQUENCE FROM N.A.
RP STRAIN-SPRAGUE-DAWLEY;
RC STRAIN-FISHER 344; TISSUE-BRAIN;
RA UTANS-SCHNEITZ U., LOREZ H., KLINKERT W.E.F., DA SILVA J.,
RA LESSLAUER W.;
RT "A novel rat CC chemokine, identified by targeted differential
display, is upregulated in brain inflammation.";
RL J. NEUROIMMUNOL. 0:0-0(1998).
DR EMBL; U90447; G1899246; -.
DR EMBL; AF053312; G3551817; -.
DR PFAM; PF00048; i18; 1.
KW SIGNAL.
SQ SEQUENCE 96 AA; 10875 MW; 3FC09DD8 CRC32;

Query Match 70.8%; Score 68; DB 11; Length 96;
Best Local Similarity 70.0%; Pred. No. 4.12e-02;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

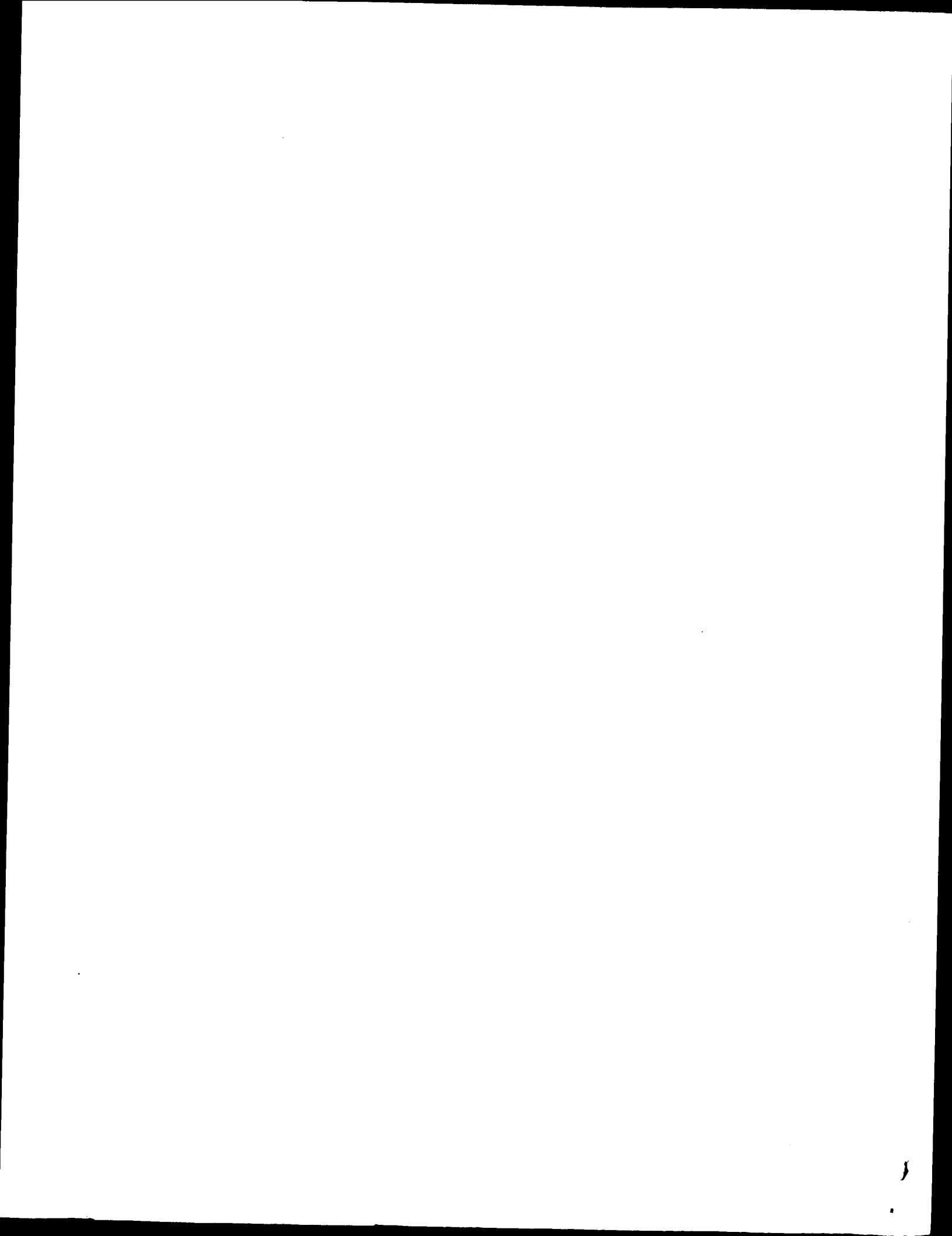
Db 73 VCADPKQIYW 82
:|||||: 11
Qy 2 ICADPKKQWV 11

RESULT 15
ID O62812 PRELIMINARY; PRT; 97 AA.
AC O62812;
DT 01-AUG-1998 (TREMREL. 07, CREATED)
DT 01-AUG-1998 (TREMREL. 07, LAST SEQUENCE UPDATE)
DT 01-AUG-1998 (TREMREL. 07, LAST ANNOTATION UPDATE)
DE INTERLEUKIN-8 (FRAGMENT).
GN IL-8.
OS EQUUS CABALLUS (HORSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC PERISSODACTYLA; EQUIDAE; EQUUS.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE-BRONCHOALVEOLAR TISSUE;
RA FRANCHINI M.;
RL SUBMITTED (APR-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL; AF062377; G3126973; -.
FT NON_TER 97 97
SQ SEQUENCE 97 AA; 10742 MW; 00396FBF CRC32;

Query Match 70.8%; Score 68; DB 6; Length 97;
Best Local Similarity 58.3%; Pred. No. 4.12e-02;
Matches 7; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

Db 75 EVCLNPHTKWVQ 86
|:|:| |
Qy 1 EICADPKKQWVQ 12

Search completed: Fri Feb 4 17:40:46 2000
Job time : 52 secs.



Sat Feb 5 12:04:37 2000

W P E L E H (TM)

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MPSrch_pp protein - protein database search, using Smith-Waterman algorithm

Run on: Fri Feb 4 17:38:48 2000; MasPar time 3.57 Seconds
134.609 Million cell updates/sec

Tabular output not generated.

Title: >US-09-150-813-65
Description: (1-12) from US09150813.pep

Perfect Score: 96
Sequence: 1 EICADPKEKWQ 12

Scoring table: PAM 150
Gap 15

Searched: 122810 seqs, 40068593 residues

Post-processing: Minimum Match 0%
Listing first 45 summaries

Database: pir60
1:pir1 2:pir2 3:pir3 4:pir4

Statistics: Mean 24.896; Variance 35.903; scale 0.693

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match % | Length | ID | Description | Pred. No. |
|------------|-------|---------------|--------|----|---------------------------------|-----------|
| 1 | 93 | 96.9 | 99 | 2 | A60299 monocyte chemoattractant | 9.81e-08 |
| 2 | 92 | 95.8 | 99 | 2 | JC2136 monocyte chemoattractant | 1.65e-07 |
| 3 | 88 | 91.7 | 99 | 2 | JC2336 monocyte chemoattractant | 1.30e-06 |
| 4 | 88 | 91.7 | 99 | 2 | A39296 monocyte chemoattractant | 1.30e-06 |
| 5 | 87 | 90.6 | 95 | 2 | JN0841 interleukin-8 - dog | 2.17e-06 |
| 6 | 87 | 90.6 | 101 | 2 | S42496 interleukin-8 - sheep | 2.17e-06 |
| 7 | 87 | 90.6 | 101 | 2 | I46997 interleukin-8 - sheep | 2.17e-06 |
| 8 | 87 | 90.6 | 103 | 2 | A53096 alveolar macrophage c | 2.17e-06 |
| 9 | 87 | 90.6 | 103 | 2 | A44253 monocyte chemoattractant | 2.17e-06 |
| 10 | 87 | 90.6 | 125 | 2 | I46857 macrophage inflammato | 3.62e-05 |
| 11 | 86 | 89.6 | 92 | 2 | I23232 monocyte chemoattractant | 3.62e-05 |
| 12 | 86 | 89.6 | 109 | 2 | A34678 eotaxin precursor - h | 6.01e-06 |
| 13 | 85 | 88.5 | 97 | 2 | JC4912 monocyte chemoattractant | 6.01e-06 |
| 14 | 85 | 88.5 | 99 | 2 | JC5295 monocyte chemoattractant | 9.96e-06 |
| 15 | 84 | 87.5 | 99 | 2 | JC2417 interleukin-8 - rabbi | 9.96e-06 |
| 16 | 84 | 87.5 | 101 | 2 | I48147 monocyte chemoattractant | 9.96e-06 |
| 17 | 84 | 87.5 | 120 | 2 | I48147 monocyte chemoattractant | 9.96e-06 |
| 18 | 83 | 86.5 | 96 | 2 | JC2478 eotaxin precursor - r | 1.65e-05 |
| 19 | 83 | 86.5 | 96 | 2 | I48099 eotaxin precursor - g | 1.65e-05 |
| 20 | 79 | 82.3 | 92 | 2 | A32393 macrophage inflammato | 1.20e-04 |
| 21 | 79 | 82.3 | 148 | 2 | A30209 PDGF-inducible JE gly | 1.20e-04 |
| 22 | 78 | 81.3 | 99 | 2 | A37034 interleukin-8 precurs | 1.97e-04 |
| 23 | 75 | 78.1 | 50 | 2 | C60407 monocyte adherence-in | 8.46e-04 |

| | | | | | | |
|----|----|------|-----|---|------------------------------|----------|
| 24 | 75 | 78.1 | 92 | 1 | A31767 macrophage inflammato | 8.46e-04 |
| 25 | 75 | 78.1 | 92 | 2 | A30574 macrophage inflammato | 8.46e-04 |
| 26 | 75 | 78.1 | 93 | 2 | B35673 LD78-beta protein pre | 8.46e-04 |
| 27 | 75 | 78.1 | 148 | 2 | S07723 immediate-early serum | 1.37e-03 |
| 28 | 74 | 77.1 | 101 | 2 | I48148 neutrophil attractant | 1.37e-03 |
| 29 | 74 | 77.1 | 120 | 2 | JE0177 lymphocyte and monocy | 2.21e-03 |
| 30 | 73 | 76.0 | 89 | 2 | A53497 pre-B-cell growth-sti | 2.21e-03 |
| 31 | 73 | 76.0 | 89 | 2 | I53416 interleukin-8 homolog | 2.21e-03 |
| 32 | 73 | 76.0 | 91 | 1 | A46539 monocyte chemoattract | 2.21e-03 |
| 33 | 73 | 76.0 | 93 | 2 | I81182 cytokine - mouse | 2.21e-03 |
| 34 | 73 | 76.0 | 93 | 2 | I46730 cytokine SDF-1-beta - | 3.55e-03 |
| 35 | 72 | 75.0 | 92 | 2 | I46730 cytokine SDF-1-beta - | 3.55e-03 |
| 36 | 69 | 71.9 | 114 | 1 | ETMSL lymphotactin precursor | 3.65e-02 |
| 37 | 67 | 69.8 | 91 | 1 | A28815 monocyte chemoattract | 5.76e-02 |
| 38 | 66 | 68.8 | 760 | 2 | S55520 chitin synthetase I - | 9.06e-02 |
| 39 | 65 | 67.7 | 92 | 2 | C30552 macrophage inflammato | 1.42e-01 |
| 40 | 64 | 66.7 | 97 | 2 | A48093 monocytic cytokine FI | 1.42e-01 |
| 41 | 64 | 66.7 | 103 | 2 | I50417 RSV-induced protein - | 1.42e-01 |
| 42 | 64 | 66.7 | 103 | 2 | A26736 transformation-induce | 1.42e-01 |
| 43 | 63 | 65.6 | 116 | 2 | I49555 gene C10 protein - mo | 2.22e-01 |
| 44 | 62 | 64.6 | 114 | 1 | ETHUL lymphotactin precursor | 3.45e-01 |
| 45 | 57 | 59.4 | 178 | 2 | F69804 hypothetical protein | 2.96e+00 |

ALIGNMENTS

| | | | |
|-------------------|---|---|----------------|
| RESULT ENTRY | 1 | A60299 | #type complete |
| TITLE | | monocyte chemoattractant protein 1 precursor - human | |
| ALTERNATE_NAMES | | GDCF-1; glioma-derived monocyte chemotactic factor 1; MCP-1; monocyte chemotactic factor 1; monocyte secretory protein; tumor-derived chemotactic factor 2 (GDCF-2) | |
| CONTAINS | | glioma-derived chemotactic factor 2 (GDCF-2) | |
| ORGANISM | | #formal_name Homo sapiens #common_name man | |
| DATE | | 20-Feb-1993 #sequence_revision 20-Feb-1993 #text_change | |
| ACCESSIONS | | A35474; A33476; S03339; I51841; A60299; A32300; A32396; A34561; I57488; JC1096 | |
| REFERENCE | | A35474 Shyy, Y.-J.; Li, Y.-S.; Kolattukudy, P.E. | |
| #authors | | Biochem. Biophys. Res. Commun. (1990) 169:346-351 | |
| #journal | | Structure of human monocyte chemotactic protein gene and its regulation by tPA. | |
| #title | | | |
| #cross-references | | MUID:90290466 | |
| #accession | | A35474 | |
| #molecule_type | | DNA | |
| #residues | | 1-99 | #label SHY |
| #cross-references | | GB:M37719; NID:g187447; PID:g487124 | |
| REFERENCE | | A33476 | |
| #authors | | Rollins, B.J.; Stier, P.; Ernst, T.; Wong, G.G. | |
| #journal | | Mol. Cell. Biol. (1989) 9:4687-4695 | |
| #title | | The human homolog of the JE gene encodes a monocyte secretory protein. | |
| #cross-references | | MUID:90097880 | |
| #accession | | A33476 | |
| #molecule_type | | mRNA | |
| #residues | | 1-99 | #label ROL |
| #cross-references | | GB:M30816; GB:M31625; GB:M31626; NID:g188701; PID:g386961 | |
| REFERENCE | | S03339 | |
| #authors | | Yoshimura, T.; Yuhki, N.; Moore, S.K.; Appella, E.; Lerman, M.I.; Leonard, E.J. | |
| #journal | | FEBS Lett. (1989) 244:487-493 | |
| #title | | Human monocyte chemoattractant protein-1 (MCP-1). Full-length cDNA cloning, expression in mitogen-stimulated blood mononuclear leukocytes, and sequence similarity to mouse competence gene JE. | |
| #cross-references | | MUID:89153605 | |
| #accession | | S03339 | |
| #status | | not compared with conceptual translation | |
| #molecule_type | | mRNA | |
| #residues | | 1-99 | #label YOS |
| #cross-references | | GB:X14768; NID:g34513; PID:g34514 | |

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##experimental_source glioma cell line U-105MG
REFERENCE
I51841
#authors
Yoshimura, T.; Leonard, E.J.
#journal
Adv. Exp. Med. Biol. (1991) 305:47-56
#title
Human monocyte chemoattractant protein-1 (MCP-1).
#cross-references GDB:92095166
#accession
I51841
#status
Preliminary; translated from GB/EMBL/DBJ
##molecule_type mRNA
##residues
1-99 #label Y02
#cross-references GB:S71513; NID:g240867; PID:g240868
REFERENCE
A60299
#authors
Bottazzi, B.; Colotta, F.; Sica, A.; Nobili, N.; Mantovani,
A.
#journal
Int. J. Cancer (1990) 45:795-797
#title
A chemoattractant expressed in human sarcoma cells
(tumor-derived chemotactic factor, TDCF) is identical to
monocyte chemoattractant protein-1/monocyte chemotactic and
activating factor (MCP-1/MCAF).
#accession
A60299
#status
not compared with conceptual translation
##molecule_type mRNA
##residues
1-99 #label BOT
REFERENCE
A32300
#authors
Furukani, Y.; Nomura, H.; Nohata, M.; Oyama, Y.; Fukui, T.;
Yamada, M.; Larsen, C.G.; Oppenheim, J.J.; Matsushima, K.
#journal
Biochem. Biophys. Res. Commun. (1989) 159:249-255
#title
Cloning and sequencing of the cDNA for human monocyte
chemotactic and activating factor (MCAF).
#cross-references MUID:89165862
#accession
A32300
#status
not compared with conceptual translation
##molecule_type mRNA
##residues
1-99 #label FUR
#cross-references GB:M24545; NID:g187434; PID:g307163
REFERENCE
A32396
#authors
Robinson, E.A.; Yoshimura, T.; Leonard, E.J.; Tanaka, S.;
Griffin, P.R.; Shabanowitz, J.; Hunt, D.F.; Appella, E.
#journal
Proc. Natl. Acad. Sci. U.S.A. (1989) 86:1850-1854
#title
Complete amino acid sequence of a human monocyte
chemoattractant, a putative mediator of cellular immune
reactions.
#cross-references MUID:89184525
#accession
A32396
##molecule_type protein
##residues
'X', 25-99 #label ROB
REFERENCE
A34561
#authors
Decock, B.; Conings, R.; Lenaerts, J.P.; Billiau, A.; Van
Damme, J.
#journal
Biochem. Biophys. Res. Commun. (1990) 167:904-909
#title
Identification of the monocyte chemotactic protein from human
osteosarcoma cells and monocytes: detection of a novel
N-terminally processed form.
#cross-references MUID:90211336
#accession
A34561
##molecule_type protein
##residues
29-33, 'XX', 36-52; 82-92 #label DEC
REFERENCE
I57488
#authors
Li, Y.S.; Shyy, V.J.; Wright, J.G.; Valente, A.J.; Cornhill,
J.F.; Kolattukudy, P.B.
#journal
Mol. Cell. Biochem. (1993) 126:61-68
#title
The expression of monocyte chemotactic protein (MCP-1) in
human vascular endothelium in vitro and in vivo.
#cross-references MUID:94150478
#accession
I57488
#status
translated from GB/EMBL/DBJ
##molecule_type mRNA
##residues
1-99 #label LTY
#cross-references GB:S69738; NID:g545464; PID:g545465
REFERENCE
JC1096
#authors
Ye, Q.N.; Su, G.F.; Yuan, Y.; Huang, C.F.
#journal
Chinese J. Microbiol. Immunol. (1994) 14:29-32
#title
The PCR, cloning and sequencing of human monocyte

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chemoattractant protein-1 (MCP-1) gene.
#accession
JC1096
##molecule_type mRNA
##residues
24-28, 'Q', 30-99 #label YEQ
GENETICS
#gene
GDB:SCYA2
#cross-references GDB:125279; OMIM:158105
#map_position 17q11.2-17q12
CLASSIFICATION
#superfamily macrophage inflammatory protein
cytokine; glycoprotein; inflammation; pyroglutamic acid
FEATURE
1-23
24-99
#domain signal sequence #status predicted #label SIG\
#product monocyte chemoattractant protein 1 #status
experimental #label MAT\
#product monocyte chemoattractant protein 1, short form
#status experimental #label MAT2\
#modified_site pyrrolidone carboxylic acid (Gln) (in
mature form) #status experimental\
#binding_site carbohydrate (Asn) (covalent) #status
predicted
#length 99 #molecular-weight 11025 #checksum 7984
SUMMARY
Query Match 95.8%; Score 93; DB 2; Length 99;
Best Local Similarity 91.7%; Pred. No. 9.81e-08;
Matches 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
Db 73 EICADPKQKVVQ 84
QY 1 EICADPKQKVVQ 12
|||||:|||||
RESULT 2
ENTRY
JC2136 #type complete
monocyte chemoattractant protein-1 precursor - pig
#formal_name Sus scrofa domestica #common_name domestic pig
30-Sep-1993 #sequence_revision 20-Aug-1994 #text_change
17-Mar-1999
JC2136; S57498
ACCESSIONS
JC2136
REFERENCE
Hosang, K.; Knoke, I.; Klaudiny, J.; Wempe, F.; Wuttke, W.;
Scheit, K.H.
#journal
Biochem. Biophys. Res. Commun. (1994) 199:962-968
#title
Porcine luteal cells express monocyte chemoattractant
protein-1 (MCP-1): Analysis by polymerase chain reaction
and cDNA cloning.
#cross-references MUID:94183284
#accession
JC2136
##molecule_type mRNA
##residues
1-99 #label HOS
REFERENCE
S57497
#authors
Zach, O.
#submission
submitted to the EMBL Data Library, July 1994
#accession
S57498
##status
Preliminary
##molecule_type mRNA
##residues
1-99 #label ZAC
#cross-references EMBL:X79416; NID:g872312; PID:g872313
CLASSIFICATION
#superfamily macrophage inflammatory protein
glycoprotein
FEATURE
1-23
24-99
#domain signal sequence #status predicted #label SIG\
#product monocyte chemoattractant protein-1 #status
predicted #label MAT\
#binding_site carbohydrate (Asn) (covalent) #status
predicted
#length 99 #molecular-weight 10976 #checksum 9768
SUMMARY
Query Match 95.8%; Score 92; DB 2; Length 99;
Best Local Similarity 83.3%; Pred. No. 1.65e-07;
Matches 10; Conservative 2; Mismatches 0; Indels 0; Gaps 0;
Db 73 EICADPKQKVVQ 84
|||||:|||||

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sat Feb 5 12:04:37 2000

```

QY      1 EICADPKKWWQ 12

RESULT      3
ENTRY      Jc2336      #type complete
TITLE      monocyte chemoattractant protein-1 - bovine
ORGANISM    #formal_name Bos primigenius indicus #common_name zebu cattle
DATE        20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change
           03-May-1996

ACCESSIONS  Jc2336
REFERENCE    Jc2336
#authors    Wempe, F.; Kuhlmann, J.K.; Scheit, K.H.
#journal     Biochem. Biophys. Res. Commun. (1994) 202:1272-1279
#title       Characterization of the bovine monocyte chemoattractant
           protein-1 gene.
#cross-references MUID:94338337
#accession  Jc2336
#molecule_type protein
#residues   1-99 #label WEM

GENETICS    MCP-1
#gene       26/1; 65/2
#introns    #superfamily macrophage inflammatory protein
CLASSIFICATION #length 99 #molecular-weight 11114 #checksum 9401
SUMMARY

Query Match      91.7%; Score 88; DB 2; Length 99;
Best Local Similarity 83.3%; Pred. No. 1.30e-06;
Matches 10; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Db      73 EICADPKKWWQ 84
        1:|||||:||||
QY      1 EICADPKKWWQ 12

RESULT      4
ENTRY      A39296      #type complete
TITLE      monocyte chemoattractant protein 1 precursor - bovine
ALTERNATE_NAMES monocyte chemoattractant factor 1; seminal plasma protein p6
ORGANISM    #formal_name Bos primigenius taurus #common_name cattle
DATE        03-Aug-1992 #sequence_revision 03-Aug-1992 #text_change
           31-Oct-1997
           A39296; B39296
ACCESSIONS  A39296
REFERENCE    Wempe, F.; Henschen, A.; Scheit, K.H.
#authors     DNA Cell Biol. (1991) 10:671-679
#journal     Gene expression and cDNA cloning identified a major basic
#title       protein constituent of bovine seminal plasma as bovine
           monocyte-chemoattractant protein-1 (MCP-1).
#cross-references MUID:92096117
#accession  A39296
#molecule_type mRNA
#residues   1-99 #label WEM
#cross-references GB:M84602; GB:M85264; NID:g163394; PID:g163395
#accession  B39296
#molecule_type protein
#residues   50-68,'X',70-74,'X',76 #label WE2
#experimental_source seminal vesicle
CLASSIFICATION #superfamily macrophage inflammatory protein
KEYWORDS      glycoprotein
FEATURE       1-23
           24-99
           94
           #domain signal sequence #status predicted #label SIG\
           #product monocyte chemoattractant protein 1 #status
           predicted #label MAT\
           #binding_site carbohydrate (Asn) (covalent) #status
           predicted
           #length 99 #molecular-weight 11114 #checksum 9401
SUMMARY

Query Match      91.7%; Score 88; DB 2; Length 99;
Best Local Similarity 83.3%; Pred. No. 1.30e-06;
Matches 10; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Db      73 EICADPKKWWQ 84
        1:|||||:||||
QY      1 EICADPKKWWQ 12

RESULT      5
ENTRY      JN0841      #type complete
TITLE      interleukin-8 - dog
ORGANISM    #formal_name Canis lupus familiaris #common_name dog
DATE        19-May-1994 #sequence_revision 19-May-1994 #text_change
           12-Apr-1995
           JN0841
ACCESSIONS  JN0841
REFERENCE    Ishikawa, J.; Suzuki, S.; Hotta, K.; Hirota, Y.; Mizuno, S.;
#authors     Suzuki, K.
#journal     Gene (1993) 131:305-306
#title       Cloning of a canine gene homologous to the human
           interleukin-8-encoding gene.
#cross-references MUID:94010328
#accession  JN0841
#molecule_type DNA
#residues   1-95 #label ISH
COMMENT      This protein is a polymorphonuclear leukocytes chemotactic factor
           and is involved in the host defense function.

GENETICS    22/1; 67/2
#introns    #superfamily beta-thromboglobulin
CLASSIFICATION #length 95 #molecular-weight 10611 #checksum 3157
SUMMARY

Query Match      90.6%; Score 87; DB 2; Length 95;
Best Local Similarity 83.3%; Pred. No. 2.17e-06;
Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db      75 EVCLDPKWKWQ 86
        1:|||||:||||
QY      1 EICADPKKWWQ 12

RESULT      6
ENTRY      S42496      #type complete
TITLE      interleukin 8 - sheep
ORGANISM    #formal_name Ovis orientalis aries, Ovis ammon aries
           #common_name domestic sheep
DATE        06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change
           08-Sep-1997
           S42496
ACCESSIONS  S42496
REFERENCE    Legastelois, I.; Greenland, T.; Arnaud, P.; Mornex, J.F.;
#authors     Cordier, G.
#submission submitted to the EMBL Data Library, March 1994
#description Nucleotide sequence of ovine interleukin 8 cDNA using
           polymerase chain reaction.
#accession  S42496
#status     preliminary
#molecule_type mRNA
#residues   1-101 #label LEG
#cross-references EMBL:X78306; NID:g463253; PID:g463254
CLASSIFICATION #superfamily beta-thromboglobulin
SUMMARY      #length 101 #molecular-weight 11292 #checksum 294

Query Match      90.6%; Score 87; DB 2; Length 101;
Best Local Similarity 83.3%; Pred. No. 2.17e-06;
Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db      75 EVCLDPKWKWQ 86
        1:|||||:||||
QY      1 EICADPKKWWQ 12

RESULT      7
ENTRY      I46997      #type complete
TITLE      interleukin-8 - sheep
ORGANISM    #formal_name Ovis sp. #common_name sheep
DATE        21-Feb-1997 #sequence_revision 21-Feb-1997 #text_change
           09-May-1997

```

```

ACCESSIONS
REFERENCE
146997
#authors
Seow, H.F.; Yoshimura, T.; Wood, P.R.; Colditz, I.G.
#journal
Immunol. Cell Biol. (1994) 72:398-405
#title
Cloning, sequencing, expression and inflammatory activity in
skin of ovine interleukin-8.
#cross-references MUID:95137691
#accession
146997
#status
preliminary; translated from GB/EMBL/DBJ
#molecule_type mRNA
#residues 1-101 ##label SEO
##cross-references GB:S74436; NID:g786590; PID:g786591
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OIL-8
#superfamily beta-thromboglobulin
CLASSIFICATION
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Query Match 90.6%; Score 87; DB 2; Length 101;
Best Local Similarity 83.3%; Pred. No. 2.17e-06;
Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
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I:| | | | | | | |
QY 1 EICADPKRWQ 12
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#status #type complete
#molecule_type mRNA
#formal_name Sus scrofa domestica #common_name domestic pig
ORGANISM
DATE
02-Jun-1995 #sequence_revision 02-Jun-1995 #text_change
ACCESSIONS
REFERENCE
A53096
#authors
Lin, G.; Pearson, A.E.; Scamurra, R.W.; Zhou, Y.; Baarsch,
M.J.; Weiss, D.J.; Murtough, M.P.
#journal
J. Biol. Chem. (1994) 269:77-85
#title
Regulation of interleukin-8 expression in porcine alveolar
macrophages by bacterial lipopolysaccharide.
#cross-references MUID:94103307
#accession
A53096
#status
preliminary
#molecule_type mRNA
#residues 1-103 ##label LIN
##cross-references GB:M86923; NID:g164520; PID:g164521
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Best Local Similarity 83.3%; Pred. No. 2.17e-06;
Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
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QY 1 EICADPKRWQ 12
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RESULT 9
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TITLE
#status #type complete
#molecule_type mRNA
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30-Apr-1993 #sequence_revision 18-Nov-1994 #text_change
ACCESSIONS
REFERENCE
A44253
#authors
Goodman, R.B.; Foster, D.C.; Mathewes, S.L.; Osborn, S.G.;
Kuijper, J.L.; Forstrom, J.W.; Martin, T.R.
#journal
Biochemistry (1992) 31:10483-10490
#title
Molecular cloning of porcine alveolar macrophage-derived
neutrophil chemotactic factors I and II: identification of
porcine IL-8 and another intercrine-alpha protein.
#cross-references MUID:93041741
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OIL-8
#superfamily beta-thromboglobulin
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Best Local Similarity 83.3%; Pred. No. 2.17e-06;
Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
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J. Biol. Chem. (1994) 269:77-85
#title
Regulation of interleukin-8 expression in porcine alveolar
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#molecule_type mRNA
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#superfamily beta-thromboglobulin
#length 103 #molecular-weight 11633 #checksum 8835
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Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
Db 75 EVCLDPKRWQ 86
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QY 1 EICADPKRWQ 12
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30-Apr-1993 #sequence_revision 18-Nov-1994 #text_change
ACCESSIONS
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#authors
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Kuijper, J.L.; Forstrom, J.W.; Martin, T.R.
#journal
Biochemistry (1992) 31:10483-10490
#title
Molecular cloning of porcine alveolar macrophage-derived
neutrophil chemotactic factors I and II: identification of
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Best Local Similarity 83.3%; Pred. No. 2.17e-06;
Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
Db 75 EVCLDPKRWQ 86
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TITLE
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#authors
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Best Local Similarity 83.3%; Pred. No. 2.17e-06;
Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
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A44253
#authors
Goodman, R.B.; Foster, D.C.; Mathewes, S.L.; Osborn, S.G.;
Kuijper, J.L.; Forstrom, J.W.; Martin, T.R.
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porcine IL-8 and another intercrine-alpha protein.
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CLASSIFICATION
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Best Local Similarity 83.3%; Pred. No. 2.17e-06;
Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
Db 75 EVCLDPKRWQ 86
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#title
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#cross-references MUID:94103307
#accession
A53096
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#molecule_type mRNA
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##cross-references GB:M86923; NID:g164520; PID:g164521
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Best Local Similarity 83.3%; Pred. No. 2.17e-06;
Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
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DATE
30-Apr-1993 #sequence_revision 18-Nov-1994 #text_change
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A44253
#authors
Goodman, R.B.; Foster, D.C.; Mathewes, S.L.; Osborn, S.G.;
Kuijper, J.L.; Forstrom, J.W.; Martin, T.R.
#journal
Biochemistry (1992) 31:10483-10490
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Molecular cloning of porcine alveolar macrophage-derived
neutrophil chemotactic factors I and II: identification of
porcine IL-8 and another intercrine-alpha protein.
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OIL-8
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CLASSIFICATION
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02-Jun-1995 #sequence_revision 02-Jun-1995 #text_change
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A53096
#authors
Lin, G.; Pearson, A.E.; Scamurra, R.W.; Zhou, Y.; Baarsch,
M.J.; Weiss, D.J.; Murtough, M.P.
#journal
J. Biol. Chem. (1994) 269
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Sat Feb 5 12:04:37 2000

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Query Match      89.6%; Score 86; DB 2; Length 92;
Best Local Similarity 83.3%; Pred. No. 3.62e-06;
Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 71 QICADPKETWVQ 82
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QY 1 EICADPKKRWVQ 12

RESULT 12
ENTRY A54678 #type complete
TITLE monocyte chemotactic protein 3 precursor - human
ALTERNATE_NAMES monocyte chemoattractant protein MCP-3
ORGANISM #formal_name Homo sapiens #common_name man
DATE 28-Oct-1994 #sequence_revision 28-Oct-1994 #text_change
17-Mar-1999

ACCESSIONS A54678; JCI1478; S32222
REFERENCE A54678
#authors Opdenakker, G.; Fiten, P.; Nys, G.; Froyen, G.; Van Roy, N.;
Speleman, F.; Laureys, G.; Van Damme, J.
#journal Genomics (1994) 21:403-408
#title The human MCP-3 gene (SCYA7): cloning, sequence analysis, and
assignment to the C-C chemokine gene cluster on chromosome
17q11.2-q12.
#cross-references MUID:94375065
#accession A54678
#molecule_type DNA
#residues 1-109 #label OPD
#cross-references GB:X72309
REFERENCE JCI1478
#authors Opdenakker, G.; Froyen, G.; Fiten, P.; Proost, P.; Van Damme,
J.
#journal Biochem. Biophys. Res. Commun. (1993) 191:535-542
#title Human monocyte chemotactic protein-3 (MCP-3): Molecular
cloning of the cDNA and comparison with other chemokines.
#cross-references MUID:93213290
#accession JCI1478
#molecule_type mRNA
#residues 1-109 #label OP2
REFERENCE S32222
#authors Minty, A.; Chalon, P.; Guillemot, J.C.; Kaghad, M.; Liauzun,
P.; Magazin, M.; Miloux, B.; Minty, C.; Ramond, P.; Vlica,
N.; Lupker, J.; Shire, D.; Ferrara, P.; Caput, D.
#submission Submitted to the EMBL Data Library, March 1993
#description Molecular cloning of MCP-3: a human monocyte-derived monocyte
chemoattractant protein.
#accession S32222
#molecule_type mRNA
#residues 1-109 #label MIN
#cross-references EMBL:X71087; NID:g288396; PID:g288397
COMMENT This protein induces proteinase secretion and chemotaxis by
macrophages and monocytes.
GENETICS
#gene GDB:SCYA7; SCYA6; MCP-3
#map_position 17q11-17q12
#introns 36/1; 75/2
CLASSIFICATION #superfamily macrophage inflammatory protein
KEYWORDS cytokine; glycoprotein; inflammation
FEATURE 1-33 #domain signal sequence #status predicted #label SIG\
34-109 #product monocyte chemotactic protein 3 #status
predicted #label MAT\
39 #binding site carbohydrate (Asn) (covalent) #status
predicted
SUMMARY #length 109 #molecular-weight 12356 #checksum 1535
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Best Local Similarity 83.3%; Pred. No. 3.62e-06;
Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 83 EICADPTQKWVQ 94
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QY 1 EICADPKKRWVQ 12

RESULT 13
ENTRY JC4912 #type complete
TITLE eotaxin precursor - human
ORGANISM #formal_name Homo sapiens #common_name man
DATE 01-Nov-1996 #sequence_revision 01-Nov-1996 #text_change
13-Nov-1998

ACCESSIONS JC4912
REFERENCE JC4912
#authors Bartels, J.; Schlueter, C.; Richter, E.; Noso, N.; Kulke, R.;
Christophers, E.; Schroeder, J.M.
#journal Biochem. Biophys. Res. Commun. (1996) 225:1045-1051
#title Human dermal fibroblasts express eotaxin: Molecular cloning,
mRNA expression, and identification of eotaxin sequence
variants.
#accession JC4912
#status preliminary
#molecule_type mRNA
#residues 1-97 #label BAR
#cross-references EMBL:Z75668; NID:g1531982; PID:e251275; PID:g1531983
#experimental_source dermal fibroblast
COMMENT This protein has eosinophil specific chemotactic activity.
CLASSIFICATION #superfamily macrophage inflammatory protein
KEYWORDS fibroblast
FEATURE 1-18 #domain signal sequence #status predicted #label SIG\
19-97 #product eotaxin #status predicted #label MAT
SUMMARY #length 97 #molecular-weight 10790 #checksum 448
Query Match 88.5%; Score 85; DB 2; Length 97;
Best Local Similarity 75.0%; Pred. No. 6.01e-06;
Matches 9; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 71 DICADPKKRWVQ 82
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QY 1 EICADPKKRWVQ 12

RESULT 14
ENTRY JC5295 #type complete
TITLE monocyte chemotactic protein-2 precursor - human
ORGANISM #formal_name Homo sapiens #common_name man
DATE 02-May-1997 #sequence_revision 18-Jul-1997 #text_change
17-Mar-1999

ACCESSIONS JC5295
REFERENCE JC5295
#authors Van Coillie, E.; Froyen, G.; Nomiya, H.; Miura, R.; Fiten,
P.; Van Aelst, I.; Van Damme, J.; Opdenakker, G.
#journal Biochem. Biophys. Res. Commun. (1997) 231:726-730
#title Human monocyte chemotactic protein-2: cDNA cloning and
regulated expression of mRNA in mesenchymal cells.
#cross-references MUID:97224420
#accession JC5295
#molecule_type mRNA
#residues 1-99 #label VAN
#cross-references GB:X10802; NID:g1924937; PID:e294088; PID:g1924938
#experimental_source bone marrow
COMMENT This protein belongs to the beta-chemokine family which is one of
the major HIV-suppressive factors. It plays roles in autoimmune
processes such as multiple sclerosis and rheumatoid arthritis and
in tumor biology, and contribute to the trafficking and
recruitment of the responsive cells.
GENETICS mcp-2
CLASSIFICATION #superfamily macrophage inflammatory protein
FEATURE 1-23 #domain signal sequence #status predicted #label SIG\
24-99 #product monocyte chemotactic protein-2 #status
predicted #label MAT
SUMMARY #length 99 #molecular-weight 11246 #checksum 6596

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Query Match 88.5%; Score 85; DB 2; Length 99;
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 Matches 9; Conservative 3; Mismatches 0; Indels 0; Gaps 0;
 Db 73 EVCADPKRWVR 84
 I:|||||:|:
 QY 1 EICADPKRWVQ 12

RESULT 15
 ENTRY JC2417 #type complete
 TITLE monocyte chemoattractant protein-2 precursor - pig
 ORGANISM #formal_name Sus scrofa domestica #common_name domestic pig
 DATE 24-Feb-1995 #sequence_revision 24-Feb-1995 #text_change
 17-Mar-1999
 ACCESSIONS JC2417
 REFERENCE JC2417
 #authors Hosang, K.; Knoke, I.; Klaudiny, J.; Wempe, F.; Wuttke, W.;
 Scheit, K.H.
 #journal Biochem. Biophys. Res. Commun. (1994) 205:148-153
 #title Porcine luteal cells express monocyte chemoattractant
 protein-2 (MCP-2): Analysis by cDNA cloning and northern
 analysis.
 #cross-references MUID:95091716
 #accession JC2417
 #molecule_type mRNA
 ##residues 1-99 #label HOS
 ##experimental_source corpus luteum
 CLASSIFICATION #superfamily macrophage inflammatory protein
 FEATURE 1-23
 24-99 #domain signal sequence #status predicted #label SIG\
 #product monocyte chemoattractant protein-2 #status
 predicted #label MAT
 SUMMARY #length 99 #molecular-weight 10903 #checksum 7556
 Query Match 87.5%; Score 84; DB 2; Length 99;
 Best Local Similarity 75.0%; Pred. No. 9.96e-06;
 Matches 9; Conservative 2; Mismatches 1; Indels 0; Gaps 0;
 Db 73 EVCADPOQKWVQ 84
 I:|||||:
 QY 1 EICADPKRWVQ 12

Search completed: Fri Feb 4 17:39:13 2000
 Job time : 25 secs.

W P S R E L H

(TM)

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MPsrch_pp protein - protein database search, using Smith-Waterman algorithm
Run on: Fri Feb 4 17:45:38 2000; MasPar time 5.03 Seconds
130.258 Million cell updates/sec
Tabular output not generated.

Title: >US-09-150-813-66
Description: (1-12) from US09150813.pgp
Perfect Score: 95
Sequence: 1 EICADPTQKWVQ 12

Scoring table: PAM 150
Gap 15

Searched: 179066 seqs, 54579741 residues

Post-processing: Minimum Match 0%
Listing first 45 summaries

Database: sptrembl9
1:sp-archaea 2:sp-bacteria 3:sp-fungi 4:sp-human
5:sp-invertebrate 6:sp-mammal 7:sp-mhc 8:sp-organelle
9:sp-phage 10:sp-plant 11:sp-rodent 12:sp-unclassified
13:sp-vertebrate 14:sp-virus

Statistics: Mean 25.123; Variance 34.142; scale 0.736

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match | Length | DB ID | Description | Pred. No. |
|------------|-------|-------------|--------|-------|-------------|------------------------|
| 1 | 75 | 78.9 | 80 | 4 | Q14745 | LD78 ALPHA BETA PRECUR |
| 2 | 74 | 77.9 | 395 | 11 | O35188 | NEUROTACTIN. |
| 3 | 74 | 77.9 | 395 | 11 | O35933 | FRACTALKINE. |
| 4 | 72 | 75.8 | 97 | 13 | O57411 | LYMPHOTACTIN PRECURSOR |
| 5 | 70 | 73.7 | 95 | 14 | O98158 | ORF K6. |
| 6 | 70 | 73.7 | 119 | 4 | O00175 | MP1F-2. |
| 7 | 69 | 72.6 | 92 | 11 | O88430 | CC CHEMOKINE ABCD-1. |
| 8 | 69 | 72.6 | 97 | 11 | O89093 | CC CHEMOKINE ST38 PREC |
| 9 | 69 | 72.6 | 120 | 4 | O15467 | IL-10-INDUCIBLE CHEMOK |
| 10 | 69 | 72.6 | 134 | 4 | O00585 | BETA CHEMOKINE EXODUS- |
| 11 | 67 | 70.5 | 91 | 4 | O43646 | RANTES PRECURSOR. |
| 12 | 66 | 69.5 | 97 | 6 | O62812 | INTERLEUKIN-8 (FRAGMEN |
| 13 | 65 | 68.4 | 95 | 4 | O99664 | CHEMOKINE EXODUS. |
| 14 | 65 | 68.4 | 96 | 11 | P97884 | CC CHEMOKINE EXODUS. |
| 15 | 65 | 68.4 | 133 | 11 | O09006 | BETA CHEMOKINE EXODUS- |
| 16 | 65 | 68.4 | 133 | 11 | O09002 | SMALL INDUCIBLE C1TORI |
| 17 | 62 | 65.3 | 101 | 13 | O93238 | CC CHEMOKINE-1. |
| 18 | 61 | 64.2 | 104 | 13 | O73912 | K60 PROTEIN PRECURSOR. |
| 19 | 61 | 64.2 | 109 | 11 | O55038 | B LYMPHOCYTE CHEMOATTR |
| 20 | 60 | 63.2 | 93 | 4 | O00626 | MACROPHAGE-DERIVED CHE |

| | | | | | | |
|----|----|------|------|----|--------|------------------------|
| 21 | 60 | 63.2 | 307 | 10 | O65737 | BETA-GALACTOSIDASE (EC |
| 22 | 60 | 63.2 | 397 | 4 | P78423 | CX3C CHEMOKINE PRECURS |
| 23 | 60 | 63.2 | 730 | 10 | O65736 | BETA-GALACTOSIDASE (EC |
| 24 | 59 | 62.1 | 552 | 5 | O46178 | RADIAL SPOKEHEAD. |
| 25 | 58 | 61.1 | 109 | 4 | O43927 | CXC CHEMOKINE PRECURSO |
| 26 | 58 | 61.1 | 203 | 14 | O67634 | ECO Q PROTEIN (FRAGMEN |
| 27 | 57 | 60.0 | 95 | 2 | P70808 | ATP BINDING PROTEIN (F |
| 28 | 57 | 60.0 | 108 | 11 | O70460 | EBI-1 LIGAND CHEMOKINE |
| 29 | 57 | 60.0 | 117 | 10 | O42317 | BETA GALACTOSIDASE (FR |
| 30 | 57 | 60.0 | 760 | 3 | O99126 | CHITIN SYNTHETASE I. |
| 31 | 57 | 60.0 | 852 | 10 | O23243 | BETA-GALACTOSIDASE. |
| 32 | 57 | 60.0 | 853 | 10 | O42150 | BETA-GALACTOSIDASE L1K |
| 33 | 56 | 58.9 | 108 | 2 | O50686 | INSERTION ELEMENT IS61 |
| 34 | 56 | 58.9 | 257 | 11 | O88827 | PLASMA CELL MEMBRANE G |
| 35 | 56 | 58.9 | 859 | 14 | O97013 | ENVELOPE GLYCOPROTEIN |
| 36 | 55 | 57.9 | 146 | 14 | O84776 | 14 (HRV-14) RNA SQUEN |
| 37 | 55 | 57.9 | 146 | 14 | O84738 | TYPE 14 (HRV14), COMPL |
| 38 | 55 | 57.9 | 187 | 2 | O83516 | HYPOTHETICAL 21.4 KD P |
| 39 | 55 | 57.9 | 332 | 1 | O28318 | PYRUVATE FORMATE-LYASE |
| 40 | 55 | 57.9 | 723 | 10 | O82670 | BETA-GALACTOSIDASE (EC |
| 41 | 55 | 57.9 | 1224 | 5 | P91309 | CODED FOR BY C. ELEGAN |
| 42 | 54 | 56.8 | 94 | 14 | O98157 | VMIP-1B. |
| 43 | 54 | 56.8 | 724 | 10 | O81100 | BETA-GALACTOSIDASE (EC |
| 44 | 54 | 56.8 | 822 | 4 | O60287 | KIAA0539 PROTEIN. |
| 45 | 54 | 56.8 | 852 | 14 | O73303 | ENVELOPE GLYCOPROTEIN. |

ALIGNMENTS

| RESULT | 1 | PRELIMINARY; | PRT; | 80 AA. |
|--------|---|---|------|------------------|
| ID | Q14745 | | | |
| AC | Q14745 | | | |
| DT | 01-NOV-1996 | (TREMBLREL. 01, CREATED) | | |
| DT | 01-NOV-1996 | (TREMBLREL. 01, LAST SEQUENCE UPDATE) | | |
| DT | 01-JAN-1999 | (TREMBLREL. 09, LAST ANNOTATION UPDATE) | | |
| DE | LD78 ALPHA BETA PRECURSOR (FRAGMENT). | | | |
| OS | HOMO SAPIENS (HUMAN). | | | |
| OC | EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES; | | | |
| CC | CATARRHINI; HOMINIDAE; HOMO. | | | |
| RN | [1] | | | |
| RP | SEQUENCE FROM N.A. | | | |
| RC | TISSUE=BRAIN; | | | |
| RA | ISHIZUKA K., IGATA-YI R., NARUSE K., NAKASHIMA H., OHUCHI K., | | | |
| RA | KATSURAGI S., KIN Y., OHMOTO Y., NOMIYAMA H., IIO M., MIURA R., | | | |
| RA | MIYAKAWA T., | | | |
| RL | SUBMITTED (AUG-1995) TO EMBL/GENBANK/DBJ DATA BANKS. | | | |
| DR | EMBL; D63785; D1010501; . | | | |
| DR | PROSITE; PS00472; SMALL_CYTOKINES_CC; 1. | | | |
| DR | PFAM; PF00048; il18; 1. | | | |
| KW | SIGNAL. | | | |
| FT | NON_TER | 1 | 1 | POTENTIAL. |
| FT | SIGNAL | <1 | 16 | LD78 ALPHA BETA. |
| FT | CHAIN | 17 | >80 | |
| FT | NON_TER | 80 | 80 | |
| SQ | SEQUENCE | 80 AA; 8857 MW; 3F87FLC6 CRC32; | | |

Query Match 78.9%; Score 75; DB 4; Length 80;
Best Local Similarity 58.3%; Pred. No. 5.57e-04;
Matches 7; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 65 QVCAADPSEEWVQ 76
:||||: |||
QY 1 EICADPTQKWVQ 12

| | | | | |
|--------|--------------|---|------|---------|
| RESULT | 2 | PRELIMINARY; | PRT; | 395 AA. |
| ID | O35188 | | | |
| AC | O35188 | | | |
| DT | 01-JAN-1998 | (TREMBLREL. 05, CREATED) | | |
| DT | 01-JAN-1998 | (TREMBLREL. 05, LAST SEQUENCE UPDATE) | | |
| DT | 01-NOV-1998 | (TREMBLREL. 08, LAST ANNOTATION UPDATE) | | |
| DE | NEUROTACTIN. | | | |
| GN | SCYD1. | | | |

OS MUS MUSCULUS (MOUSE).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
 OC SCIUROGNATHI; MURIDAE; MURINAE; MUS.
 RN [1]

RP SEQUENCE FROM N.A.
 RX MEDLINE: 97320499.
 RA PAN Y., CLARE L., HONG Z., DOLICH S., DEEDS J., GONZALO J., VATH J.,
 RA GOSSELIN M., MA J., DUSSAULT B., WOOLF B., ALPERIN A., CULPEPPER J.,
 RA GUTIERREZ-RAMOS J.C., GEARING D.;
 RT "Neurotactin, a membrane-anchored chemokine upregulated in brain
 RT inflammation.";
 RL NATURE 387:611-617(1997).
 DR EMBL; AF010586; G2317698;
 DR MGD; MGI:1097153; SCYD1.
 DR PFAM; PF00048; i18; 1.
 SQ SEQUENCE 395 AA; 42098 MW; E3CD0612 CRC32;

Query Match 77.9%; Score 74; DB 11; Length 395;
 Best Local Similarity 72.7%; Pred. No. 9.25e-04;
 Matches 8; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 73 FCADPKKQVQ 83
 QY :||||:||||
 2 ICADPTQKVVQ 12

RESULT 3
 ID O35933 PRELIMINARY; PRT; 395 AA.

AC O35933;
 DT 01-JAN-1998 (TREMBLREL. 05, CREATED)
 DT 01-JAN-1998 (TREMBLREL. 05, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
 DE FRACTALKINE.
 OS MUS MUSCULUS (MOUSE).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
 OC SCIUROGNATHI; MURIDAE; MURINAE; MUS.
 RN [1]

RP SEQUENCE FROM N.A.
 RX STRAIN-BALB/C; TISSUE-BRAIN;
 RA ROSSI D., HARDMAN G., COPELAND N., GILBERT D.J., JENKINS N.,
 RA ZLOTNIK A., BAZAN J.F.;
 RL SUBMITTED (MAR-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL; U92565; G2459677;
 DR PFAM; PF00048; i18; 1.
 SQ SEQUENCE 395 AA; 42040 MW; 3997A113 CRC32;

Query Match 77.9%; Score 74; DB 11; Length 395;
 Best Local Similarity 72.7%; Pred. No. 9.25e-04;
 Matches 8; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 73 FCADPKKQVQ 83
 QY :||||:||||
 2 ICADPTQKVVQ 12

RESULT 4
 ID O57411 PRELIMINARY; PRT; 97 AA.

AC O57411;
 DT 01-JUN-1998 (TREMBLREL. 06, CREATED)
 DT 01-JUN-1998 (TREMBLREL. 06, LAST SEQUENCE UPDATE)
 DT 01-JUN-1998 (TREMBLREL. 06, LAST ANNOTATION UPDATE)
 DE LYMPHOTACTIN PRECURSOR.
 OS GALLUS GALLUS (CHICKEN).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; ARCHOSAURIA; AVES;
 OC NEOGNATHAE; GALLIFORMES; PHASIANIDAE; PHASIANINAE; GALLUS.
 RN [1]

RP SEQUENCE FROM N.A.
 RX TISSUE-SPLEEN;
 RA ROSSI D.L., BAZAN J.F., ZLOTNIK A.;
 RL SUBMITTED (JUN-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL; AF006742; G2827882;
 DR SIGNAL.
 KW SIGNAL.
 FT SIGNAL

1 24 POTENTIAL.

FT CHAIN 25 97 LYMPHOTACTIN
 SQ SEQUENCE 97 AA; 11131 MW; 3290101C CRC32;

Query Match 75.8%; Score 72; DB 13; Length 97;
 Best Local Similarity 72.7%; Pred. No. 2.53e-03;
 Matches 8; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Db 72 ICVHPQKVVQ 82
 QY :||:||||
 2 ICADPTQKVVQ 12

RESULT 5

ID Q98158 PRELIMINARY; PRT; 95 AA.
 AC Q98158; O12569;
 DT 01-FEB-1997 (TREMBLREL. 02, CREATED)
 DT 01-JUL-1997 (TREMBLREL. 04, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
 DE ORF K6.
 OS KAPOSI'S SARCOMA-ASSOCIATED HERPESVIRUS.
 OC VIRUSES; DSDNA VIRUSES, NO RNA STAGE; HERPESVIRIDAE;
 OC GAMMAHERPESVIRINAE; RHADINOVIRUS.
 RN [1]

RP SEQUENCE FROM N.A.
 RX MEDLINE: 97094384.
 RA MOORE P.S., BASHOFF C., WEISS R.A., CHANG Y.;
 RT "Molecular mimicry of human cytokine and cytokine response pathway
 RT genes by KSHV.";
 RL SCIENCE 274:1739-1744(1996).
 RN [2]

RP SEQUENCE FROM N.A.
 RX MEDLINE: 97121480.

RA RUSSO J.J., BOHENZKY R.A., CHIEN M.C., CHEN J., YAN M., MADDALENA D.,
 RA PARRY J.P., PERUZZI D., EDELMAN I.S., CHANG Y., MOORE P.S.;
 RT "Nucleotide sequence of the Kaposi sarcoma-associated herpesvirus
 RT (HRV8).";
 RL PROC. NATL. ACAD. SCI. U.S.A. 93:14862-14867(1996).
 RN [3]

RP SEQUENCE FROM N.A.

RA RUSSO J.J., BOHENZKY R.A., CHIEN M.C., CHEN J., YAN M., MADDALENA D.,
 RA PARRY J.P., PERUZZI D., EDELMAN I.S., CHANG Y., MOORE P.S.;
 RL SUBMITTED (OCT-1996) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [4]

RP SEQUENCE FROM N.A.

RA NICHOLAS J., RUVOLO V.R., BURNS W.H., SANDFORD G., WAN X., CIUFO D.,
 RA HENDRICKSON S., GUO H.G., HAYWARD G.S., REITZ M.S.;
 RL SUBMITTED (NOV-1996) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [5]

RP SEQUENCE FROM N.A.

RA RUSSO J.J., BOHENZKY R.A., CHIEN M.C., CHEN J., YAN M., MADDALENA D.,
 RA PARRY J.P., PERUZZI D., EDELMAN I.S., CHANG Y., MOORE P.S.;
 RL SUBMITTED (MAY-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [6]

RP SEQUENCE FROM N.A.

RA NEIPEL F., ALBRECHT J.C., FLECKENSTEIN B.;
 RT "Cell-homologous genes in the Kaposi's sarcoma-associated
 RT rhadinovirus human herpesvirus 8: determinants of its
 RT pathogenicity?";
 RL J. VIROL. 71:4187-4192(1997).
 RN [7]

RP SEQUENCE FROM N.A.

RA SUN R., LIN S.-F., MILLER G.;
 RL SUBMITTED (SEP-1996) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL; U75698; G1718266;
 DR EMBL; U74585; G1658273;
 DR EMBL; U93872; G2246546;
 DR EMBL; U71366; G3551763;
 DR PFAM; PF00048; i18; 1.
 KW HYPOTHETICAL PROTEIN.

SQ SEQUENCE 95 AA; 10485 MW; 5283348D CRC32;

Query Match 73.7%; Score 70; DB 14; Length 95;

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Best Local Similarity 58.3%; Pred. No. 6.81e-03;
Matches 7; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 74 QICADPSKNVR 85
QY 1 EICADPTQKWQ 12

RESULT 6 PRELIMINARY; PRT; 119 AA.
ID O00175;
AC O00175;
DT 01-JUL-1997 (TREMBLREL. 04, CREATED)
DT 01-JUL-1997 (TREMBLREL. 04, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE MP1F-2.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RA PATEL V.P., KREIDER B.L., LI Y., LI H., LEUNG K., SALCEDO T.,
RA NARDELLI B., PIPALLA V., GENTZ S., THOTAKURA R., PARMELEE D.,
RA GENTZ R., GAROTTA G.;
RL J. EXP. MED. 0:0-0(0).
DR EMBL; U85768; G1916252; -.
DR PFAM; PF00048; 118; 1.
SQ SEQUENCE 119 AA; 13119 MW; CDF526F0 CRC32;

Query Match 73.7%; Score 70; DB 4; Length 119;
Best Local Similarity 58.3%; Pred. No. 6.81e-03;
Matches 7; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

Db 72 QFCGDPKQEWVQ 83
QY 1 EICADPTQKWQ 12

RESULT 7 PRELIMINARY; PRT; 92 AA.
ID O88430;
AC O88430;
DT 01-NOV-1998 (TREMBLREL. 08, CREATED)
DT 01-NOV-1998 (TREMBLREL. 08, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE CC CHEMOKINE ABCD-1.
OS MUS MUSCULUS (MOUSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
OC SCIUROGNATHI; MURIDAE; MURINAE; MUS.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=LIVER;
RX MEDLINE; 98353531.
RA SCHANIEL C., PARDALI E., SALLUSTO F., SPELETAS M., RUEDL C.,
RA SHIMIZU T., SEIDL T., ANDERSSON J., MELCHERS F., ROLINK A.G.,
RA SIDERAS P.;
RT "Activated murine B lymphocytes and dendritic cells produce a novel
RL CC chemokine which acts selectively on activated T cells.";
RL J. EXP. MED. 188:451-463(1998).
DR EMBL; AF052505; G3378116; -.
SQ SEQUENCE 92 AA; 10302 MW; BC7219A0 CRC32;

Query Match 72.6%; Score 69; DB 11; Length 92;
Best Local Similarity 72.7%; Pred. No. 1.11e-02;
Matches 8; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Db 74 DICADPTQKWV 84
QY 1 EICADPTQKWV 11

RESULT 8 PRELIMINARY; PRT; 97 AA.
ID O89093;
AC O89093;
DT 01-NOV-1998 (TREMBLREL. 08, CREATED)

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DT 01-NOV-1998 (TREMBLREL. 08, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE CC CHEMOKINE ST38 PRECURSOR.
GN LARC.
OS MUS MUSCULUS (MOUSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
OC SCIUROGNATHI; MURIDAE; MURINAE; MUS.
RN [1]
RP SEQUENCE FROM N.A.
RA UTANS-SCHNEITZ U., LOREZ H., KLINKERT W.E.F., DA SILVA J.,
RA LESSLAUER W.;
RT "A novel rat CC chemokine, identified by targeted differential
RT display, is upregulated in brain inflammation.";
RL J. NEUROIMMUNOL. 0:0-0(1998).
RN [2]
RP SEQUENCE FROM N.A.
RA VILLARES R.;
RL SUBMITTED (JUL-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL; AF053313; G3551819; -.
DR EMBL; AJ007862; E1312757; -.
KW SIGNAL. 1 27 POTENTIAL.
FT CHAIN 28 97 CC CHEMOKINE ST38.
SQ SEQUENCE 97 AA; 10826 MW; 053405BD CRC32;

Query Match 72.6%; Score 69; DB 11; Length 97;
Best Local Similarity 70.0%; Pred. No. 1.11e-02;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 74 VCADPKQNVV 83
QY 2 ICADPTQKWV 11

RESULT 9 PRELIMINARY; PRT; 120 AA.
ID O15467;
AC O15467;
DT 01-JAN-1998 (TREMBLREL. 05, CREATED)
DT 01-JAN-1998 (TREMBLREL. 05, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE IL-10-INDUCIBLE CHEMOKINE.
GN ILINCK OR SCVA16.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RA HEDRICK J.A., HELMS A., GORMAN D., ZLOTNIK A.;
RL SUBMITTED (NOV-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [2]
RP SEQUENCE FROM N.A.
RC TISSUE=LIVER;
RA SHODAI K., HIESHIMA K., FUKUDA S., IIO M., MIURA R., IWAI T.,
RA YOSHIE O., NOMIYAMA H.;
RL BIOCHIM. BIOPHYS. ACTA 0:0-0(1998).
RN [3]
RP SEQUENCE FROM N.A.
RA NOMIYAMA H.;
RT "Structure of a region of 181 kb containing five CC chemokine
RT genes.";
RL SUBMITTED (AUG-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [4]
RP SEQUENCE FROM N.A.
RX MEDLINE; 98308096.
RA YOUN B.S., ZHANG S., BROXMEYER H.E., ANTOL K., FRASER M.J. JR.,
RA HANGOC G., KWON B.S.;
RT "Isolation and characterization of LMC, a novel lymphocyte and
RT monocyte chemoattractant human CC chemokine, with myelosuppressive
RT activity.";
RL BIOCHEM. BIOPHYS. RES. COMMUN. 247:217-222(1998).
DR EMBL; U91746; G2581781; -.
DR EMBL; AB007454; D1024963; -.
DR EMBL; AF088219; G3719365; -.

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DR EMBL; AF055467; G3395776; -.
DR PFAM; PF00048; 118; 1.
KW SIGNAL.
SQ SEQUENCE 120 AA; 13600 MW; A079DF66 CRC32;

Query Match 72.6%; Score 69; DB 4; Length 120;
Best Local Similarity 50.0%; Pred. No. 1.11e-02;
Matches 6; Conservative 4; Mismatches 2; Indels 0; Gaps 0;

Db 74 EVCTNPNDWVQ 85
QY 1 EICADPTQKWVQ 12

RESULT 10
ID O00585 PRELIMINARY; PRT; 134 AA.
AC O00585;
DT 01-JUL-1997 (TREMBLREL. 04, CREATED)
DT 01-JUL-1997 (TREMBLREL. 04, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE BETA CHEMOKINE EXODUS-2.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RN SEQUENCE FROM N.A.
RA HROMAS R.A., GRAY P., KLEMSZ M., FIFE K., BROXMEYER H.;
RL SUBMITTED (JUN-1997) TO EMBL/GENBANK/DBBJ DATA BANKS.
RN [2]
RN SEQUENCE FROM N.A.
RX MEDLINE; 97400322.
RA HEDRICK J.A., ZLOTNIK A.;
RT "Identification and characterization of a novel beta chemokine
containing six conserved cysteines."
RL J. IMMUNOL. 159:1589-1593(1997).
RN [3]
RN SEQUENCE FROM N.A.
RA HEDRICK J.A., ZLOTNIK A.;
RL SUBMITTED (MAY-1997) TO EMBL/GENBANK/DBBJ DATA BANKS.
RN [4]
RN SEQUENCE FROM N.A.
RA NAGIRA M., IMAI T., HIESHIMA K., KUSUDA J., RIDANPAA M., TAKAGI S.,
RA NISHIMURA M., KAKIZAKI M., NOMIYAMA H., YOSHIE O.;
RL SUBMITTED (AUG-1997) TO EMBL/GENBANK/DBBJ DATA BANKS.
DR EMBL; U88320; G2196920; -.
DR EMBL; AF001979; G2624925; -.
DR EMBL; AB002409; D1022673; -.
DR PFAM; PF00048; 118; 1.
SQ SEQUENCE 134 AA; 14646 MW; FE86A239 CRC32;

Query Match 72.6%; Score 69; DB 4; Length 134;
Best Local Similarity 56.7%; Pred. No. 1.11e-02;
Matches 8; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Db 73 ELCAKPKELWVQ 84
QY 1 EICADPTQKWVQ 12

RESULT 11
ID O43646 PRELIMINARY; PRT; 91 AA.
AC O43646;
DT 01-JUN-1998 (TREMBLREL. 06, CREATED)
DT 01-JUN-1998 (TREMBLREL. 06, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE RANTES PRECURSOR.
GN SCYA5.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RN SEQUENCE FROM N.A.
RA JANG J.S., KIM B.E.;
RL BLOOD 89:3315-3322(1997).
DR EMBL; U64197; G1778717; -.

SUBMITTED (JAN-1998) TO EMBL/GENBANK/DBBJ DATA BANKS.
[2]
RN SEQUENCE FROM N.A.
RA NOMIYAMA H.;
RT "Structure of a region of 181 kb containing five CC chemokine
genes."
RL SUBMITTED (AUG-1998) TO EMBL/GENBANK/DBBJ DATA BANKS.
DR EMBL; AF043341; G2905632; -.
DR EMBL; AF088219; G3719366; -.
DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
KW SIGNAL.
FT SIGNAL. 1 23 POTENTIAL.
FT CHAIN 24 91 RANTES.
SQ SEQUENCE 91 AA; 9990 MW; CF404FAD CRC32;

Query Match 70.5%; Score 67; DB 4; Length 91;
Best Local Similarity 50.0%; Pred. No. 2.94e-02;
Matches 6; Conservative 4; Mismatches 2; Indels 0; Gaps 0;

Db 71 QVCANPEKKVVR 82
QY 1 EICADPTQKWVQ 12

RESULT 12
ID O62812 PRELIMINARY; PRT; 97 AA.
AC O62812;
DT 01-AUG-1998 (TREMBLREL. 07, CREATED)
DT 01-AUG-1998 (TREMBLREL. 07, LAST SEQUENCE UPDATE)
DT 01-AUG-1998 (TREMBLREL. 07, LAST ANNOTATION UPDATE)
DE INTERLEUKIN-8 (FRAGMENT).
GN IL-8.
OS EQUUS CABALLUS (HORSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC PERISSODACTYLA; EQUIDAE; EQUUS.
RN [1]
RN SEQUENCE FROM N.A.
RC TISSUE-BRONCHOALVEOLAR TISSUE;
RA FRANCHINI M.;
RL SUBMITTED (APR-1998) TO EMBL/GENBANK/DBBJ DATA BANKS.
DR EMBL; AF062377; G3126973; -.
FT NON_TER 97
SQ SEQUENCE 97 AA; 10742 MW; 00396FBF CRC32;

Query Match 69.5%; Score 66; DB 6; Length 97;
Best Local Similarity 58.3%; Pred. No. 4.76e-02;
Matches 7; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

Db 75 EVCNPHTKWVQ 86
QY 1 EICADPTQKWVQ 12

RESULT 13
ID Q99664 PRELIMINARY; PRT; 95 AA.
AC Q99664;
DT 01-MAY-1997 (TREMBLREL. 03, CREATED)
DT 01-MAY-1997 (TREMBLREL. 03, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE CHEMOKINE EXODUS.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RN SEQUENCE FROM N.A.
RC TISSUE-PANCREAS;
RX MEDLINE; 97275143.
RA HROMAS R., GRAY P.W., CHANTRY D., GODISKA R., KRATHWOHL M., FIFE K.,
RA BELL G.I., TAKEDA J., ARONICA S., GORDON M., COOPER S.,
RA BROXMEYER H.E., KLEMSZ M.J.;
RT "Cloning and characterization of exodus, a novel beta chemokine."
RL BLOOD 89:3315-3322(1997).
DR EMBL; U64197; G1778717; -.

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DR PROSITE: PS00472; SMALL_CYTOKINES_CC; 1.
DR PFAM: PF00048; i18; 1.
SQ SEQUENCE 95 AA; 10691 MW; 1526B4C0 CRC32;

Query Match 68.4%; Score 65; DB 4; Length 95;
Best Local Similarity 60.0%; Pred. No. 7.66e-02;
Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Db 72 VCANPKQTWV 81
QY :||:| | | | |
2 ICADPTQKWV 11

RESULT 14 PRELIMINARY; PRT; 96 AA.

ID P97884
AC P97884;
DT 01-MAY-1997 (TREMBLREL. 03, CREATED)
DT 01-MAY-1997 (TREMBLREL. 03, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE CC CHEMOKINE EXODUS.
DE RATTUS NORVEGICUS (RAT).
OS EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
OC SCIUROGNATHI; MURIDAE; MURINAE; RATTUS.
OC [1]
RN SEQUENCE FROM N.A.
RP STRAIN-SPRAGUE-DAWLEY;
RC KELLER G.S., MACIEJEWSKI-LENOIR D., LEE E.D., MAKI R.A.;
RA SUBMITTED (FEB-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN-FISHER 344; TISSUE-BRAIN;
RA UTANS-SCHNEITZ U., LOREZ H., KLINKERT W.E.F., DA SILVA J.,
RA LESSLAUER W.;
RT "A novel rat CC chemokine, identified by targeted differential
RT display, is upregulated in brain inflammation."
RL J. NEUROIMMUNOL. 0:0-0(1998).
DR EMBL: U90447; G1899246; -.
DR EMBL: AF053312; G3551817; -.
DR PFAM: PF00048; i18; 1.
KW SIGNAL.
SQ SEQUENCE 96 AA; 10875 MW; 3FC09DD8 CRC32;

Query Match 68.4%; Score 65; DB 11; Length 96;
Best Local Similarity 70.0%; Pred. No. 7.66e-02;
Matches 7; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Db 73 VCANPKQTWV 82
QY :||| | | | |
2 ICADPTQKWV 11

RESULT 15 PRELIMINARY; PRT; 133 AA.

ID O09006
AC O09006;
DT 01-JUL-1997 (TREMBLREL. 04, CREATED)
DT 01-AUG-1998 (TREMBLREL. 07, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE BETA CHEMOKINE EXODUS-2.
GN SCY21.
OS MUS MUSCULUS (MOUSE).
OS EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
OC SCIUROGNATHI; MURIDAE; MURINAE; MUS.
OC [1]
RN SEQUENCE FROM N.A.
RP TISSUE-TOTAL FETUS;
RX MEDLINE; 97444139;
RA HROMAS R., KIM C.H., KLEMSZ M., KRATHWOHL M., FIPE K., COOPER S.,
RA SCHNIZLEIN-BICK C., BROXMEYER H.E.;
RT "Isolation and characterization of Exodus-2, a novel C-C chemokine
RT with a unique 37-amino acid carboxyl-terminal extension."
RL J. IMMUNOL. 159:2554-2558(1997).
RN [2]
RP SEQUENCE FROM N.A.

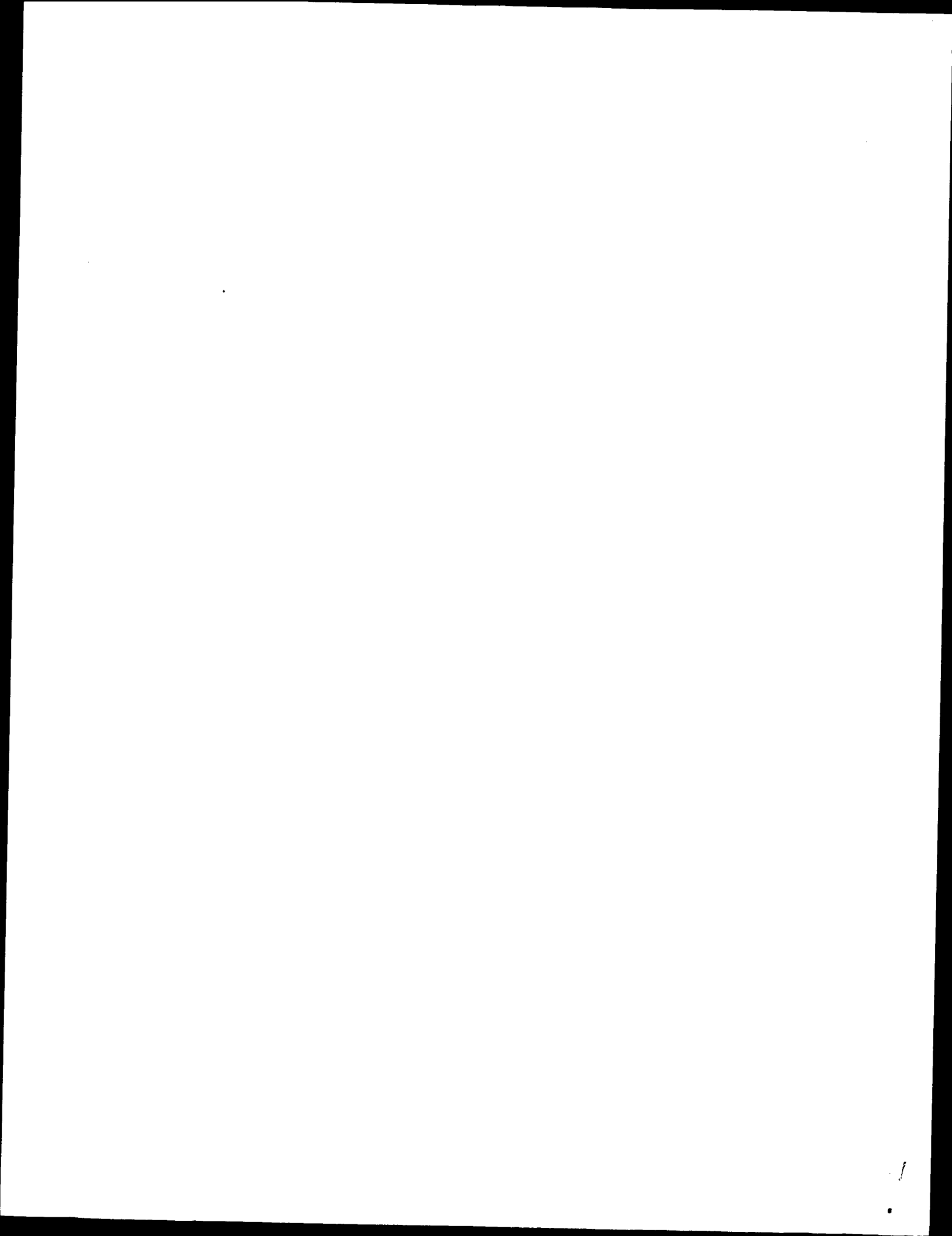
RC TISSUE-TOTAL FETUS;

RA HROMAS R.A.;
RL SUBMITTED (JUN-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL: U88322; G3169697; -.
DR MGD; MGI:1097677; SCY21.
DR PFAM: PF00048; i18; 1.
SQ SEQUENCE 133 AA; 14600 MW; B34A5E22 CRC32;

Query Match 68.4%; Score 65; DB 11; Length 133;
Best Local Similarity 58.3%; Pred. No. 7.66e-02;
Matches 7; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

Db 73 ELCANPEEGWVQ 84
QY :||:| | | | |
1 EICADPTQKWVQ 12

Search completed: Fri Feb 4 17:46:47 2000
Job time : 69 secs.



RA SHIMIZU T., SEIDL T., ANDERSSON J., MELCHERS F., ROLINK A.G.,
 RA SIDERAS P.;
 RT "Activated murine B lymphocytes and dendritic cells produce a novel
 CC chemokine which acts selectively on activated T cells.";
 RL J. EXP. MED. 188:451-463(1998).
 DR EMBL; AF052505; G3378116; -;
 SQ SEQUENCE 92 AA; 10302 MW; BC7219A0 CRC32;

Query Match 75.0%; Score 75; DB 11; Length 92;
 Best Local Similarity 58.3%; Pred. No. 3.58e-03;
 Matches 7; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 74 ICADPKRWVK 85
 QY 1 ICADPKRWVR 12

RESULT 3
 ID O35188 PRELIMINARY; PRT; 395 AA.
 AC O35188;
 DT 01-JAN-1998 (TREMREL. 05, CREATED)
 DT 01-JAN-1998 (TREMREL. 05, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMREL. 08, LAST ANNOTATION UPDATE)
 DE NEUROFACIN.
 GN SCYD1.
 OS MUS MUSCULUS (MOUSE).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
 OC SCIUROGNATHI; MURIDAE; MURINAE; MUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 97320499.
 RA PAN Y., CLARE L., HONG Z., DOLICH S., DEEDS J., GONZALO J., VATH J.,
 RA GOSSELIN M., MA J., DUSSAULT B., WOOLF B., ALPERIN A., CULPEPPER J.,
 RA GUTIERREZ-RAMOS J.C., GEARING D.;
 RT "Neurotactin, a membrane-anchored chemokine upregulated in brain
 inflammation";
 RL NATURE 387:611-617(1997).
 DR EMBL; AF010586; G2317698; -;
 DR MGD; MGI:1097153; SCYD1.
 DR PFAM; PF00048; i18; 1.
 SQ SEQUENCE 395 AA; 42098 MW; E3CD0612 CRC32;

Query Match 75.0%; Score 75; DB 11; Length 395;
 Best Local Similarity 72.7%; Pred. No. 3.58e-03;
 Matches 8; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

Db 73 FCADPKRWVK 83
 QY 2 ICADPKRWVR 12

RESULT 4
 ID O35933 PRELIMINARY; PRT; 395 AA.
 AC O35933;
 DT 01-JAN-1998 (TREMREL. 05, CREATED)
 DT 01-JAN-1998 (TREMREL. 05, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMREL. 08, LAST ANNOTATION UPDATE)
 DE FRACTALKINE.
 OS MUS MUSCULUS (MOUSE).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
 OC SCIUROGNATHI; MURIDAE; MURINAE; MUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN-BALB/C; TISSUE-BRAIN;
 RA ROSSI D., HARDIMAN G., COPELAND N., GILBERT D.J., JENKINS N.,
 RA ZLOTNIK A., BAZAN J.F.;
 RL SUBMITTED (MAR-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL; U92565; G2459677; -;
 DR PFAM; PF00048; i18; 1.
 SQ SEQUENCE 395 AA; 42040 MW; 3997A113 CRC32;

Query Match 75.0%; Score 75; DB 11; Length 395;
 Best Local Similarity 72.7%; Pred. No. 3.58e-03;

Matches 8; Conservative 3; Mismatches 0; Indels 0; Gaps 0;
 Db 73 FCADPKRWVK 83
 QY 2 ICADPKRWVR 12

RESULT 5
 ID P78423 PRELIMINARY; PRT; 397 AA.
 AC P78423; O00672;
 DT 01-MAY-1997 (TREMREL. 03, CREATED)
 DT 01-MAY-1997 (TREMREL. 03, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMREL. 08, LAST ANNOTATION UPDATE)
 DE CX3C CHEMOKINE PRECURSOR.
 GN A-152E5.2.
 OS HOMO SAPIENS (HUMAN).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
 OC CATARRHINI; HOMINIDAE; HOMO.
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 97177111.
 RA BAZAN J.F., BACON K.B., HARDIMAN G., WANG W., SOO K., ROSSI D.,
 RA GRAVES D.R., ZLOTNIK A., SCHALL T.J.;
 RT "A new class of membrane-bound chemokine with a CX3C motif.";
 RL NATURE 385:640-644(1997).
 RN [2]
 RP SEQUENCE FROM N.A.

RA ADAMS M.D., LOFTUS B.J., ZHOU L., CROSBY M., FUHRMANN J., MASON T.M.,
 RA BRANDON R., KIM U.J., KERLAVAGE A.R., VENTER J.C.;
 RT "Homo sapiens Chromosome 16 BAC clone C1987SK-A-152E5";
 RL SUBMITTED (JUN-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL; U91835; G1899259; -;
 DR EMBL; U84487; G1888523; -;
 DR EMBL; AC004382; G3252821; -;
 DR PFAM; PF00048; i18; 1.
 DR SIGNAL.
 KW SIGNAL.
 FT SIGNAL 1 24
 FT CHAIN 25 397
 SQ SEQUENCE 397 AA; 42202 MW; C8093D7D CRC32;

Query Match 75.0%; Score 75; DB 4; Length 397;
 Best Local Similarity 72.7%; Pred. No. 3.58e-03;
 Matches 8; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

Db 73 FCADPKRWVK 83
 QY 2 ICADPKRWVR 12

RESULT 6
 ID O89093 PRELIMINARY; PRT; 97 AA.
 AC O89093;
 DT 01-NOV-1998 (TREMREL. 08, CREATED)
 DT 01-NOV-1998 (TREMREL. 08, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMREL. 08, LAST ANNOTATION UPDATE)
 DE CC CHEMOKINE ST38 PRECURSOR.
 GN LARC.
 OS MUS MUSCULUS (MOUSE).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
 OC SCIUROGNATHI; MURIDAE; MURINAE; MUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RA UTANS-SCHNEITZ U., LOREZ H., KLINKERT W.E.F., DA SILVA J.,
 RA LESSLAUER W.;
 RT "A novel rat CC chemokine, identified by targeted differential
 display, is upregulated in brain inflammation";
 RL J. NEUROIMMUNOL. 0:0-0(1998).
 RN [2]
 RP SEQUENCE FROM N.A.

RA VILLARES R.;
 RL SUBMITTED (JUL-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL; AF053313; G3551819; -;
 DR EMBL; AJ007862; E1312757; -;

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KW SIGNAL. 1 27 POTENTIAL.
FT SIGNAL. 28 97 CC CHEMOKINE ST38.
FT CHAIN 97 AA; 10826 MW; 053405BD CRC32;
SQ SEQUENCE 97 AA; 10826 MW; 053405BD CRC32;

Query Match 74.0%; Score 74; DB 11; Length 97;
Best Local Similarity 63.6%; Pred. No. 5.72e-03;
Matches 7; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

Db 74 VCADPRQWVK 84
:|||||: ||:
Qy 2 EICADPKRWVR 12

RESULT 7 PRELIMINARY; PRT; 93 AA.
ID O00626 PRELIMINARY; PRT; 93 AA.
AC O00626; 1997 (TREMBLREL. 04, CREATED)
DT 01-JUL-1997 (TREMBLREL. 04, LAST SEQUENCE UPDATE)
DT 01-JUL-1997 (TREMBLREL. 04, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE MACROPHAGE-DERIVED CHEMOKINE PRECURSOR.
GN MDC OR A-152E5.1.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RN SEQUENCE FROM N.A.
RA GODISKA R., CHANTRY D., RAPORT C.J., SOZZANI S., ALLAVENA P.,
RA MANTOVANI A., GRAY P.W.;
RA J. EXP. MED. 185:0-0(0).
RN [2]
RN SEQUENCE FROM N.A.
RA CHANG M.S., MCNINCH J., ELIAS III C., MANTHEY C.L., GROSSHANS D.,
RA CHANG M.S., MCNINCH J., ELIAS III C., MANTHEY C.L., GROSSHANS D.,
RA MENG T., BOONE T., ANDREW D.P.;
RN [3]
RN SEQUENCE FROM N.A.
RA ADAMS M.D., LOFTUS B.J., ZHOU L., CROSBY M., FUHRMANN J., MASON T.M.,
RA BRANDON R., KIM U.J., KERLAVAGE A.R., VENTER J.C.;
RT "Homo sapiens Chromosome 16 BAC clone CIT97SK-A-152E5."
RN [4]
RN SUBMITTED (JUN-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL; U83171; G1931581; -.
DR EMBL; U83239; G2062425; -.
DR EMBL; AC004382; G3252820; -.
DR PFAM; PF00048; i18; 1.
DR SIGNAL. 1 24 POTENTIAL.
FT SIGNAL. 25 93 MACROPHAGE-DERIVED CHEMOKINE.
FT CHAIN 93 AA; 10580 MW; 65EA63D2 CRC32;
SQ SEQUENCE 93 AA; 10580 MW; 65EA63D2 CRC32;

Query Match 73.0%; Score 73; DB 4; Length 93;
Best Local Similarity 66.7%; Pred. No. 9.11e-03;
Matches 8; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Db 74 EICADPRVWVK 85
:|||||: ||:
Qy 1 EICADPKRWVR 12

RESULT 8 PRELIMINARY; PRT; 134 AA.
ID O00585 PRELIMINARY; PRT; 134 AA.
AC O00585; 1997 (TREMBLREL. 04, CREATED)
DT 01-JUL-1997 (TREMBLREL. 04, LAST SEQUENCE UPDATE)
DT 01-JUL-1997 (TREMBLREL. 04, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE BETA CHEMOKINE EXODUS-2.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RN SEQUENCE FROM N.A.
RA HROMAS R.A., GRAY P., KLEMSZ M., FIFE K., BROXMEYER H.;
RA SUBMITTED (JUN-1997) TO EMBL/GENBANK/DBJ DATA BANKS.

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RN [2]
RN SEQUENCE FROM N.A.
RP MEDLINE; 97400322.
RX HEDRICK J.A., ZLOTNIK A.;
RT "Identification and characterization of a novel beta chemokine
containing six conserved cysteines."
RL J. IMMUNOL. 159:1589-1593(1997).
RN [3]
RN SEQUENCE FROM N.A.
RP HEDRICK J.A., ZLOTNIK A.;
RL SUBMITTED (MAY-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [4]
RN SEQUENCE FROM N.A.
RP NAGIRA M., IMAI T., HIESHIMA K., KUSUDA J., RIDANPA M., TAKAGI S.,
RA NISHIMURA M., KAKIZAKI M., NOMIYAMA H., YOSHIE O.;
RL SUBMITTED (AUG-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL; U88320; G2196920; -.
DR EMBL; AF001979; G2624925; -.
DR EMBL; AB002409; D1022673; -.
DR PFAM; PF00048; i18; 1.
DR PFAM; PF00048; i18; 1.
SQ SEQUENCE 134 AA; 14646 MW; FE86A239 CRC32;

Query Match 73.0%; Score 73; DB 4; Length 134;
Best Local Similarity 75.0%; Pred. No. 9.11e-03;
Matches 9; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 73 ELCADPKRELWVO 84
:|||||: ||:
Qy 1 EICADPKRWVR 12

RESULT 9 PRELIMINARY; PRT; 91 AA.
ID O43646 PRELIMINARY; PRT; 91 AA.
AC O43646;
DT 01-JUN-1998 (TREMBLREL. 06, CREATED)
DT 01-JUN-1998 (TREMBLREL. 06, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE RANTES PRECURSOR.
GN SCY5.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RN SEQUENCE FROM N.A.
RP JANG J.S., KIM B.E.;
RL SUBMITTED (JAN-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [2]
RN SEQUENCE FROM N.A.
RP NOMIYAMA H.;
RT "Structure of a region of 181 kb containing five CC chemokine
genes."
RL SUBMITTED (AUG-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL; AF043341; G2905632; -.
DR EMBL; AF088219; G3719366; -.
DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
KW SIGNAL. 1 23 POTENTIAL.
FT SIGNAL. 24 91 RANTES.
FT CHAIN 91 AA; 9990 MW; CF404FAD CRC32;
SQ SEQUENCE 91 AA; 9990 MW; CF404FAD CRC32;

Query Match 72.0%; Score 72; DB 4; Length 91;
Best Local Similarity 50.0%; Pred. No. 1.45e-02;
Matches 6; Conservative 4; Mismatches 2; Indels 0; Gaps 0;

Db 71 QVCANPEKKWVR 82
:|||||: ||:
Qy 1 EICADPKRWVR 12

RESULT 10 PRELIMINARY; PRT; 95 AA.
ID Q98158 PRELIMINARY; PRT; 95 AA.
AC Q98158; 012569.
DT 01-FEB-1997 (TREMBLREL. 02, CREATED)

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CC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
OC SCIUROGNATHI; MURIDAE; MURINAE; RATTUS.
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=SPRAGUE-DAWLEY;
RA KELNER G.S., MACIEJEWSKI-LENOIR D., LEE E.D., MAKI R.A.;
RL SUBMITTED (FEB-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=FISHER 344; TISSUE=BRAIN;
RA UTANS-SCHNETTZ U., LOREZ H., KLINKERT W.E.F., DA SILVA J.,
RA LESSLAUER W.;
RT "A novel rat CC chemokine, identified by targeted differential
RT display, is upregulated in brain inflammation.";
RL J. NEUROIMMUNOL. 0:0-0(1998).
DR EMBL; U90447; G1899246; -.
DR EMBL; AF053312; G351817; -.
DR PFAM; PF00048; i18; 1.
KW SIGNAL.
SQ SEQUENCE 96 AA; 10875 MW; 3FC09DD8 CRC32;

Query Match 72.0%; Score 72; DB 11; Length 96;
Best Local Similarity 63.6%; Pred. No. 1.45e-02;
Matches 7; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

Db 73 VCADPKQIWK 83
QY 2 ICADPKRWVR 12
:|||||: ||:

RESULT 12
ID Q99664 PRELIMINARY; PRT; 95 AA.
AC Q99664;
DT 01-MAY-1997 (TREMBLREL. 03, CREATED)
DT 01-MAY-1997 (TREMBLREL. 03, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE CHEMOKINE EXODUS.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=PANCREAS;
RA MEDLINE; 97275143.
RA HROMAS R., GRAY P.W., CHANTRY D., GODISKA R., KRATHWOHL M., FIFE K.,
RA BELL G.I., TAKEDA J., ARONICA S., GORDON M., COOPER S.,
RA BROXMEYER H.E. KLEMSZ M.J.;
RT "Cloning and characterization of exodus, a novel beta-chemokine.";
RL BLOOD 89:3315-3322(1997).
DR EMBL; U64197; G1778717; -.
DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
DR PFAM; PF00048; i18; 1.
SQ SEQUENCE 95 AA; 10691 MW; 1526B4C0 CRC32;

Query Match 70.0%; Score 70; DB 4; Length 95;
Best Local Similarity 54.5%; Pred. No. 3.62e-02;
Matches 6; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 72 VCANPKQTWVK 82
QY 2 ICADPKRWVR 12
:||||: ||:

RESULT 13
ID Q14745 PRELIMINARY; PRT; 80 AA.
AC Q14745;
DT 01-NOV-1996 (TREMBLREL. 01, CREATED)
DT 01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)
DT 01-JAN-1999 (TREMBLREL. 09, LAST ANNOTATION UPDATE)
DE LD78 ALPHA BETA PRECURSOR (FRAGMENT).
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC CATARRHINI; HOMINIDAE; HOMO.

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Sat Feb 5 12:04:48 2000

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RN SEQUENCE FROM N.A.
RC TISSUE=BRAIN;
RA ISHIZUKA K., IGATA-YI R., NARUSE K., NAKASHIMA H., OHUCHI K.,
RA KATSURAGI S., KIN Y., OHMOTO Y., NOMIYAMA H., IIO M., MIURA R.,
RA MIYAKAWA T.;
RL SUBMITTED (AUG-1995) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL; D63785; D1010501; -.
DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
DR PFAM; PF00048; i18; 1.
KW SIGNAL.
FT NON_TER 1 1
FT SIGNAL <1 16
FT CHAIN 17 >80
FT NON_TER 80
SQ SEQUENCE 80 AA; 8857 MW; 3F87FIC6 CRC32;

Query Match 67.0%; Score 67; DB 4; Length 80;
Best Local Similarity 58.3%; Pred. No. 1.40e-01;
Matches 7; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

Db 65 QVCADPSEEWQ 76
QY 1 EICADPKRWVR 12

RESULT 14 PRELIMINARY; PRT; 119 AA.
ID 000175;
AC 000175;
DT 01-JUL-1997 (TREMBLREL. 04, CREATED)
DT 01-JUL-1997 (TREMBLREL. 04, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE MPF-2.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC CATARRHINI; HOMINIDAE; HOMO.
[1]
RN SEQUENCE FROM N.A.
RA PATEL V.P., KREIDER B.L., LI Y., LI H., LEUNG K., SALCEDO T.,
RA NARDELLI B., PIPPALLA V., GENTZ S., THOTAKURA R., PARMELEE D.,
RA GENTZ R., GAROTTA G.;
RL J. EXP. MED. 0:0-0(0).
DR EMBL; U85768; G1916252; -.
DR PFAM; PF00048; i18; 1.
SQ SEQUENCE 119 AA; 13119 MW; CDF526F0 CRC32;

Query Match 65.0%; Score 65; DB 4; Length 119;
Best Local Similarity 50.0%; Pred. No. 3.38e-01;
Matches 6; Conservative 5; Mismatches 1; Indels 0; Gaps 0;

Db 72 QFCGDPKQEWQ 83
QY 1 EICADPKRWVR 12

RESULT 15 PRELIMINARY; PRT; 120 AA.
ID 015467;
AC 015467;
DT 01-JAN-1998 (TREMBLREL. 05, CREATED)
DT 01-JAN-1998 (TREMBLREL. 05, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE IL-10-INDUCIBLE CHEMOKINE.
GN IL10 OR SCYLA6.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC CATARRHINI; HOMINIDAE; HOMO.
[1]
RN SEQUENCE FROM N.A.
RA HEDRICK J.A., HELMS A., GORMAN D., ZLOTNIK A.;
RL SUBMITTED (NOV-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
[2]
RN SEQUENCE FROM N.A.
RC TISSUE=LIVER;

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RA SHODAI K., HIESHIMA K., FUKUDA S., IIO M., MIURA R., IMAI T.,
RA YOSHIE O., NOMIYAMA H.;
RL BIOCHIM. BIOPHYS. ACTA 0:0-0(1998).
[3]
RN SEQUENCE FROM N.A.
RA NOMIYAMA H.;
RT "Structure of a region of 181 kb containing five CC chemokine
genes."; (AUG-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
[4]
RN SEQUENCE FROM N.A.
RX MEDLINE; 98308096.
RA YOUN B.S., ZHANG S., BROXMEYER H.E., ANTOL K., FRASER M.J. JR.,
RA HANGOC G., KWON B.S.;
RT "Isolation and characterization of LMC, a novel lymphocyte and
RT monocytic chemoattractant human CC chemokine, with myelosuppressive
RT activity.";
RL BIOCHEM. BIOPHYS. RES. COMMUN. 247:217-222(1998).
DR EMBL; U91746; G2581781; -.
DR EMBL; AB007454; D1024963; -.
DR EMBL; AF088219; G3719365; -.
DR EMBL; AF055457; G3395776; -.
DR PFAM; PF00048; i18; 1.
KW SIGNAL.
SQ SEQUENCE 120 AA; 13600 MW; A079DF66 CRC32;

Query Match 65.0%; Score 65; DB 4; Length 120;
Best Local Similarity 41.7%; Pred. No. 3.38e-01;
Matches 5; Conservative 6; Mismatches 1; Indels 0; Gaps 0;

Db 74 EVCNPNDDWQ 85
QY 1 EICADPKRWVR 12

Search completed: Fri Feb 4 17:52:30 2000
Job time : 56 secs.

```


RP SUBUNIT.
RX MEDLINE: 97053697.
RA KIM K.-S., RAJARATHNAM K., CLARK-LEWIS I., SYKES B.D.;
RT "Structural characterization of a monomeric chemokine: monocyte
chemoattractant protein-3";
RL FEBS LETT. 395:277-282(1996).
CC -!- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES, LYMPHOCYTES,
CC BASOPHILS AND EOSINOPHILS. MAY PLAY A ROLE IN NEOPLASIA AND
CC INFLAMMATORY HOST RESPONSES. THIS PROTEIN CAN BIND HEPARIN.
CC -!- SUBUNIT: MONOMER OR HOMODIMER; IN EQUILIBRIUM.
CC -!- TISSUE SPECIFICITY: HIGHEST EXPRESSION FOUND IN THE SMALL
CC INTESTINE AND PERIPHERAL BLOOD CELLS. INTERMEDIATE LEVELS IN
CC THE HEART, PLACENTA, LUNG, SKELETAL MUSCLE, THYMUS, COLON, OVARY,
CC SPINAL CORD AND PANCREAS. LOW LEVELS SEEN IN THE BRAIN, LIVER,
CC SPLEEN AND PROSTATE.
CC -!- INDUCTION: BY INTERFERON GAMMA, MITOGENS AND INTERLEUKIN-1.
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
CC C-C) (CHEMOKINE CC).
CC -----
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CC -----
DR EMBL: X99886; E279930; ALT_INIT.
DR EMBL: Y10802; E294088;
DR EMBL: Y16645; E1253690;
DR MIM: 602283;
DR PROSITE: PS00472; SMALL_CYTOKINES_CC; 1.
DR PFAM: PF00048; 118; 1.
DR HSSP: P13500; 1DOL.
DR CYTOKINE: CHEMOTAXIS; SIGNAL; HEPARIN-BINDING; INFLAMMATORY RESPONSE;
KW POLYMORPHISM.
FT SIGNAL 1 23 PROBABLE.
FT CHAIN 24 99 MONOCYTE CHEMOTACTIC PROTEIN 2.
FT MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID.
FT DISULFID 34 59 BY SIMILARITY.
FT DISULFID 35 75 BY SIMILARITY.
FT VARIANT 69 69 K->Q.
SQ SEQUENCE 99 AA; 11246 MW; 5DD5C20 CRC32;
Query Match 98.0%; Score 98; DB 1; Length 99;
Best Local Similarity 91.7%; Pred. No. 3.46e-09;
Matches 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
Db 73 EVCADPKRWVR 84
QY 1 EICADPKRWVR 12
RESULT 2
ID MCP5_MOUSE STANDARD; PRT; 104 AA.
AC Q62401;
DT 01-NOV-1997 (REL. 35, CREATED)
DT 01-NOV-1997 (REL. 35, LAST SEQUENCE UPDATE)
DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
DE MONOCYTE CHEMOTACTIC PROTEIN 5 PRECURSOR (MCP-5) (MCP-1 RELATED
DE CHEMOKINE).
GN SCYA12 OR MCP5.
OS MUS MUSCULUS (MOUSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; MUS.
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE: 97079149.
RA JIA G.-Q., GONZALO J.A., LLOYD C., KREMER L., LU L., MARTINEZ A.C.,
RA WERSHIL B.K., GUTIERREZ-RAMOS J.C.;
RT "Distinct expression and function of the novel mouse chemokine
RT monocyte chemoattractant protein-5 in lung allergic inflammation";
RL J. EXP. MED. 184:1939-1951(1996).

[2]
RN SEQUENCE FROM N.A.
RP MEDLINE: 97149438.
RA SARAFI M.N., GARCIA-ZEPEDA E.A., MACLEAN J.A., CHARO I.F.,
RA LUSTER A.D.;
RT "Murine monocyte chemoattractant protein (MCP)-5: a novel CC
RT chemokine that is a structural and functional homologue of human
RT MCP-1";
RL J. EXP. MED. 185:99-109(1997).
CC -!- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS EOSINOPHILS, MONOCYTES,
CC AND LYMPHOCYTES BUT NOT NEUTROPHILS. POTENT MONOCYTE ACTIVE
CC CHEMOKINE THAT SIGNALS THROUGH CCR2. INVOLVED IN ALLERGIC
CC INFLAMMATION AND THE HOST RESPONSE TO PATHOGENS AND MAY PLAY A
CC PIVOTAL ROLE DURING EARLY STAGES OF ALLERGIC LUNG INFLAMMATION.
CC -!- SUBUNIT: HOMODIMER (BY SIMILARITY).
CC -!- TISSUE SPECIFICITY: PREDOMINANTLY EXPRESSED IN THE LYMPH NODES AND
CC THYMUS. ALSO FOUND IN THE SALIVARY GLANDS CONTAINING LYMPH NODES,
CC BREAST, HEART, LUNG, BRAIN, SMALL INTESTINE, KIDNEY AND COLON.
CC -!- INDUCTION: BY IFN-GAMMA AND LIPOPOLYSACCHARIDE (LPS).
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
CC C-C) (CHEMOKINE CC).
CC -----
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CC -----
DR EMBL: U50712; G1477582;
DR EMBL: U66670; G1881583;
DR MGD: MGI:108224; SCYA12.
DR PROSITE: PS00472; SMALL_CYTOKINES_CC; 1.
DR PFAM: PF00048; 118; 1.
DR HSSP: P13500; 1DOL.
KW CYTOKINE: CHEMOTAXIS; SIGNAL; INFLAMMATORY RESPONSE.
FT SIGNAL 1 22 BY SIMILARITY.
FT CHAIN 23 104 MONOCYTE CHEMOTACTIC PROTEIN 5.
FT DISULFID 33 58 BY SIMILARITY.
FT DISULFID 34 74 BY SIMILARITY.
SQ SEQUENCE 104 AA; 11659 MW; 08FA6C35 CRC32;
Query Match 90.0%; Score 90; DB 1; Length 104;
Best Local Similarity 83.3%; Pred. No. 2.70e-07;
Matches 10; Conservative 2; Mismatches 0; Indels 0; Gaps 0;
Db 72 EICADPKRWVR 83
QY 1 EICADPKRWVR 12
RESULT 3
ID MCP4_HUMAN STANDARD; PRT; 98 AA.
AC Q59616;
DT 15-JUL-1998 (REL. 36, CREATED)
DT 15-JUL-1998 (REL. 36, LAST SEQUENCE UPDATE)
DT 15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)
DE MONOCYTE CHEMOTACTIC PROTEIN 4 PRECURSOR (MCP-4) (MONOCYTE
DE CHEMOTACTIC PROTEIN 4) (CK-BETA10) (NCC-1).
GN SCYA13 OR MCP4 OR NCC1.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC PRIMATES; CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RX TISSUE-HEART;
RX MEDLINE: 97113354.
RA GARCIA-ZEPEDA E.A., COMBADIERE C., ROTHENBERG M.E., SARAFI M.N.,
RA LAVIGNE F., HAMID Q., MURPHY P.M., LUSTER A.D.;
RT "Human monocyte chemoattractant protein (MCP)-4 is a novel CC
RT chemokine with activities on monocytes, eosinophils, and basophils
RT induced in allergic and nonallergic inflammation that signals through

the CC chemokine receptors (CCR)-2 and -3.";

J. IMMUNOL. 157:5613-5626(1996).

[2] SEQUENCE FROM N.A., AND SEQUENCE OF 17-98.

TISSUE=FETAL;

CC MEDLINE: 96235049.

RA UGUCCIONI M., LOESSCHER P., FORSSMANN U., DEWALD B., LI H., LIMA S.H.,

RA LI Y., KREIDER B., GAROTTA G., THELEN M., BAGGIOLINI M.;

"Monocyte chemotactic protein 4 (MCP-4), a novel structural and

functional analogue of MCP-3 and eotaxin.";

J. EXP. MED. 183:2379-2384(1996).

[3] SEQUENCE FROM N.A., AND SEQUENCE OF 22-33.

TISSUE=FETAL;

CC MEDLINE: 97341179.

RA BERKHOUT T.A., SARAU H.M., MOORES K., WHITE J.R., ELSHOUBAGY N.,

RA APPELBAUM E., REAPE T.J., BRAUNER M., MAKWANA J., FOLEY J.J.,

RA SCHMIDT D.B., IMBURGA C., MACNULTY D., MATTHEWS J., O'DONNELL K.,

RA O'SHANNESY D., SCOTT M., GROOT P.H.E., MACPHEE C.;

"Cloning, in vitro expression, and functional characterization of a

novel human CC chemokine of the monocyte chemotactic protein (MCP)

family (MCP-4) that binds and signals through the CC chemokine

receptor 2B.";

RECEPTOR 2B.";

J. BIOL. CHEM. 272:16404-16413(1997).

[4]

SEQUENCE FROM N.A.

RA DANTE M., GIBSON A.;

RA SUBMITTED (AUG-1997) TO EMBL/GENBANK/DBJ DATA BANKS.

[5]

SEQUENCE FROM N.A.

CC TISSUE=LUNG;

RA POWER C.A., MEYER A., RISON S.C.G., GUYE-COULIN F., WELLS T.N.C.;

RA SUBMITTED (DEC-1997) TO EMBL/GENBANK/DBJ DATA BANKS.

CC -1- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES, LYMPHOCYTES,

CC BASOPHILS AND EOSINOPHILS, BUT NOT NEUTROPHILS. SIGNALS THROUGH

CC CCR2B AND CCR3 RECEPTORS. PLAYS A ROLE IN THE ACCUMULATION OF

CC LEUKOCYTES AT BOTH SIDES OF ALLERGIC AND NONALLERGIC INFLAMMATION.

CC MAY BE INVOLVED IN THE RECRUITMENT OF MONOCYTES INTO THE ARTERIAL

CC WALL DURING THE DISEASE PROCESS OF ARTERIOSCLEROSIS. MAY PLAY A

CC ROLE IN THE MONOCYTE ATTRACTION IN TISSUES CHRONICALLY EXPOSED TO

CC EXOGENOUS PATHOGENS.

CC -1- MASS SPECTROMETRY: MW=9314; MW_ERR=30; METHOD=MALDI; RANGE=17-98.

CC -1- MASS SPECTROMETRY: MW=8760; MW_ERR=30; METHOD=MALDI; RANGE=22-98.

CC -1- MASS SPECTROMETRY: MW=8575; MW_ERR=30; METHOD=MALDI; RANGE=24-98.

CC -1- INDUCTION: BY INTERLEUKIN-1 AND TNF-ALPHA.

CC -1- TISSUE SPECIFICITY: WIDELY EXPRESSED. FOUND IN SMALL INTESTINE,

CC THYMUS, COLON, LUNG, TRACHEA, STOMACH AND LYMPH NODE. LOW LEVELS

CC SEEN IN THE PULMONARY ARTERY SMOOTH MUSCLE CELLS.

CC -1- THIS PROTEIN CAN BIND HEPARIN.

CC -1- PTM: ONE MAJOR ISOFORM MCP-4, AND TWO MINOR ISOFORMS (LA)MCP-4 AND

CC (FNPGLA)MCP-4 ARE PRODUCED BY DIFFERENTIAL SIGNAL CLEAVAGE.

CC (LA)MCP-4 IS ABOUT 30 FOLD LESS ACTIVE THAN MCP-4.

CC -1- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE

CC C-C) (CHEMOKINE CC).

CC -----

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CC -----

CC EMBL: U46767; G1732123; "

CC EMBL: AC002482; G2340091; "

CC EMBL: X98306; E248571; "

CC MIM: 601391; "

CC PROSITE: PS00472; SMALL_CYTOKINES_CC; 1.

CC PFAM: PF00048; il8; 1.

CC HSP: P13500; 1DOL.

CC CYTOKINE; CHEMOTAXIS; SIGNAL; GLYCOPROTEIN; INFLAMMATORY RESPONSE.

CC SIGNAL 1 23

CC CHAIN 24 98 MONOCYTE CHEMOTACTIC PROTEIN 4.

CC

FT MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID.

FT DISULFID 34 58 BY SIMILARITY.

FT DISULFID 35 74 BY SIMILARITY.

FT CARBOHYD 29 29 POTENTIAL.

SQ SEQUENCE 98 AA; 10986 MW; DF52F6EC CRC32;

Query Match 87.0%; Score 87; DB 1; Length 98;

Best Local Similarity 83.3%; Pred. NO. 1.34e-06;

Matches 10; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Db 72 EICADPKKWKVQ 83

|||||||:

QY 1 EICADPKRWVR 12

RESULT 4

ID MCP1_HUMAN STANDARD; PRT; 99 AA.

AC P13500;

DT 01-JAN-1990 (REL. 13, CREATED)

DT 01-JAN-1990 (REL. 13, LAST SEQUENCE UPDATE)

DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)

DE MONOCYTE CHEMOTACTIC PROTEIN 1 PRECURSOR (MCP-1) (MONOCYTE CHEMOTACTIC

DE AND ACTIVATING FACTOR) (MCAF) (MONOCYTE SECRETORY PROTEIN JE)

DE (MONOCYTE CHEMOATTRACTANT PROTEIN 1) (HC11) (SMALL INDUCIBLE CYTOKINE

DE A2).

GN SCY2 OR MCP1.

OS HOMO SAPIENS (HUMAN).

OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;

OC PRIMATES; CATARRHINI; HOMINIDAE; HOMO.

RN [1]

RP SEQUENCE FROM N.A.

RX MEDLINE: 89165862.

RA FURUTANI Y., NOMURA H., NOTAKE M., OYAMADA Y., FUKUI T., YAMADA M.,

RA LARSEN C.G., OPENHEIM J.J., MATSUSHIMA K.;

"Cloning and sequencing of the cDNA for human monocyte chemotactic

RT and activating factor (MCAF).";

RL BIOCHEM. BIOPHYS. RES. COMMUN. 159:249-255(1989).

RN [2]

RP SEQUENCE FROM N.A.

RX MEDLINE: 90097880.

RA ROLLINS B.J., STIER P., ERNST T., WONG G.G.;

"The human homolog of the JE gene encodes a monocyte secretory

RT protein.";

RL MOL. CELL. BIOL. 9:4687-4695(1989).

RN [3]

RP SEQUENCE FROM N.A.

RX MEDLINE: 89153605.

RA YOSHIMURA T., YUHKI N., MOORE S.K., APPELLA E., LERMAN M.I.,

RA LEONARD E.J.;

"Human monocyte chemoattractant protein-1 (MCP-1). Full-length cDNA

RT cloning, expression in mitogen-stimulated blood mononuclear

RT leukocytes, and sequence similarity to mouse competence gene JE.";

RL FEBS LETT. 244:487-493(1989).

RN [4]

RP SEQUENCE FROM N.A.

RX MEDLINE: 90290466.

RA SHY V.J., LI Y.S., KOLATTUKUDY P.E.;

"Structure of human monocyte chemotactic protein gene and its

RT regulation by TPA.";

RL BIOCHEM. BIOPHYS. RES. COMMUN. 169:346-351(1990).

RN [5]

RP SEQUENCE FROM N.A.

RX MEDLINE: 91207938.

RA CHANG H.C., HSU F., FREEMAN G.J., GRIFFIN J.D., REINHERZ E.L.;

"Cloning and expression of a gamma-interferon-inducible gene in

RT monocytes: a new member of a cytokine gene family.";

RL INT. IMMUNOL. 1:388-399(1989).

RN [6]

RP SEQUENCE FROM N.A.

RX MEDLINE: 94150478.

RA LI Y.S., SHY V.J., WRIGHT J.G., VALENTE A.J., CORNHILL J.F.,

RA KOLATTUKUDY P.E.;

"The expression of monocyte chemotactic protein (MCP-1) in human

RT

RT vascular endothelium in vitro and in vivo.";
 RN MOL. CELL. BIOCHEM. 126:61-68(1993).
 RP SEQUENCE FROM N.A.
 RX MEDLINE: 92095166.
 RA YOSHIMURA T., LEONARD E.J.;
 RT "Human monocyte chemoattractant protein-1 (MCP-1).";
 RL ADV. EXP. MED. BIOL. 305:47-56(1991).
 RN [8]
 RP SEQUENCE OF 24-99.
 RX MEDLINE: 89184525.
 RA ROBINSON E.A., YOSHIMURA T., LEONARD E.J., TANAKA S., GRIFFIN P.R.,
 RT "SHABANOWITZ J., HUNT D.F., APPELLA E.;
 RL "Complete amino acid sequence of a human monocyte chemoattractant, a
 RT putative mediator of cellular immune reactions.";
 RL PROC. NATL. ACAD. SCI. U.S.A. 86:1850-1854(1989).
 RN [9]
 RP SEQUENCE OF 29-53 AND 82-92.
 RX MEDLINE: 90211336.
 RA DECOCK B., CONINGS R., LENAERTS J.-P., BILLAU A., VAN DAMME J.;
 RT "Identification of the monocyte chemotactic protein from human
 RT osteosarcoma cells and monocytes: detection of a novel N-terminally
 RT processed form.";
 RL BIOCHEM. BIOPHYS. RES. COMMUN. 167:904-909(1990).
 RN [10]
 RP 3D-STRUCTURE MODELLING.
 RX MEDLINE: 91312872.
 RA GRONENBORN A.M., CLORE G.M.;
 RT "Modelling the three-dimensional structure of the monocyte chemo-
 RT attractant and activating protein MCP-1 on the basis of the
 RT solution structure of interleukin-8.";
 RL PROTEIN ENG. 4:263-269(1991).
 RN [11]
 RP X-RAY CRYSTALLOGRAPHY (1.85 ANGSTROMS).
 RX MEDLINE: 97143315.
 RA LUBKOWSKI J., BUJACZ G., DOMAILLE P.J., HANDEL T.M., WLODAWER A.;
 RT "The structure of MCP-1 in two crystal forms provides a rare example
 RT of variable quaternary interactions.";
 RL NAT. STRUCT. BIOL. 4:64-69(1997).
 RN [12]
 RP STRUCTURE BY NMR.
 RX MEDLINE: 96234959.
 RA HANDEL T.M., DOMAILLE P.J.;
 RT "Heteronuclear (1H, 13C, 15N) NMR assignments and solution structure
 RT of the monocyte chemoattractant protein-1 (MCP-1) dimer.";
 RL BIOCHEMISTRY 35:6569-6584(1996).
 RN [13]
 RP EFFECT OF DELETION OF N-TERMINAL RESIDUES.
 RX MEDLINE: 96195223.
 RA WEBER M., UGUCCIONI M., BAGGIOLINI M., CLARK-LEWIS I., DAHINDEN C.A.;
 RT "Deletion of the NH2-terminal residue converts monocyte chemotactic
 RT protein 1 from an activator of basophil mediator release to an
 RT eosinophil chemoattractant.";
 RL J. EXP. MED. 183:681-685(1996).
 RN [14]
 RP MUTAGENESIS.
 RX MEDLINE: 94253189.
 RA ZHANG Y.J., RUTLEDGE B.J., ROLLINS B.J.;
 RT "Structure/activity analysis of human monocyte chemoattractant
 RT protein-1 (MCP-1) by mutagenesis. Identification of a mutated protein
 RT that inhibits MCP-1-mediated monocyte chemotaxis.";
 RL J. BIOL. CHEM. 269:15918-15924(1994).
 RN [15]
 RP SUBUNIT.
 RX MEDLINE: 97053697.
 RA KIM K.-S., RAJARATHNAM K., CLARK-LEWIS I., SYKES B.D.;
 RT "Structural characterization of a monomeric chemokine: monocyte
 RT chemoattractant protein-3.";
 RL FEBS LETT. 395:277-282(1996).
 CC -/- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES AND BASOPHILS
 CC BUT NOT NEUTROPHILS OR EOSINOPHILS. AUGMENTS MONOCYTE ANTI-TUMOR
 CC ACTIVITY. HAS BEEN IMPLICATED IN THE PATHOGENESIS OF DISEASES
 CC CHARACTERIZED BY MONOCYTIC INFILTRATES, LIKE PSORIASIS, RHEUMATOID

CC ARTHRITIS OR ATHEROSCLEROSIS. MAY BE INVOLVED IN THE RECRUITMENT
 CC OF MONOCYTES INTO THE ARTERIAL WALL DURING THE DISEASE PROCESS OF
 CC ATHEROSCLEROSIS.
 CC -/- SUBUNIT: MONOMER OR HOMODIMER; IN EQUILIBRIUM.
 CC -/- PTM: PROCESSING AT THE N-TERMINUS CAN REGULATE RECEPTOR AND TARGET
 CC CELL SELECTIVITY. DELETION OF THE AMINO- TERMINAL RESIDUE CONVERTS
 CC IT FROM AN ACTIVATOR OF BASOPHIL TO AN EOSINOPHIL CHEMOATTRACTANT.
 CC -/- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
 CC C-C) (CHEMOKINE CC).
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 CC -----
 CC EMBL: M31626; G386961;
 DR EMBL: M30816; G386961; JOINED.
 DR EMBL: M31625; G386961; JOINED.
 DR EMBL: M24545; G307163;
 DR EMBL: M28226; G338009;
 DR EMBL: X14768; G34514;
 DR EMBL: M37719; G487124;
 DR EMBL: M28225; G338007;
 DR EMBL: M28223; G338007; JOINED.
 DR EMBL: M28224; G338007; JOINED.
 DR EMBL: S69738; G545465;
 DR EMBL: S71513; G240868;
 DR EMBL: A17786; G641145;
 DR PIR: A35474; A35474.
 DR PIR: S03339; S03339.
 DR PDB: 1DOK; 12-MAR-97.
 DR PDB: 1DOL; 12-MAR-97.
 DR PDB: 1DOM; 14-OCT-96.
 DR PDB: 1DON; 14-OCT-96.
 DR PDB: 1MCA; 15-OCT-94.
 DR MIM: 158105;
 DR PROSITE: PS00472; SMALL_CYTOKINES_CC; 1.
 DR PFAM: PF00048; 118; 1.
 KW CYTOKINE; CHEMOTAXIS; SIGNAL; INFLAMMATORY RESPONSE; 3D-STRUCTURE.
 FT SIGNAL 1 23
 FT CHAIN 24 99
 FT MOD_RES 24 24
 FT DISULFID 34 59
 FT DISULFID 35 75
 FT CARBOHYD 37 37
 FT VARIANT 76 76
 FT MUTAGEN 24 24
 FT MUTAGEN 25 32
 FT MUTAGEN 24 85
 FT MUTAGEN 24 91
 FT MUTAGEN 26 26
 FT MUTAGEN 29 29
 FT MUTAGEN 47 47
 FT MUTAGEN 50 50
 FT MUTAGEN 51 51
 FT MUTAGEN 53 53
 FT MUTAGEN 91 91
 SQ SEQUENCE 99 AA; 11025 MW; 5355B695 CRC32;
 Query Match 84.0%; Score 84; DB 1; Length 99;
 Best Local Similarity 75.0%;
 Matches 9; Conservative 3; Mismatches 0; Indels 0; Gaps 0;
 Db 73 EICADPKQKWQ 84
 Qy 1 EICADPKRWVR 12
 RESULT 5 STANDARD; PRT; 101 AA.
 ID MCP1_CANFA

```

AC P52203;
DT 01-OCT-1996 (REL. 34, CREATED)
DT 01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)
DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
DE MONOCYTE CHEMOTACTIC PROTEIN 1 PRECURSOR (MCP-1) (MONOCYTE
DE CHEMOATTRACTANT PROTEIN-1).
GN SCY22 OR MCP1.
OS CANIS FAMILIARIS (DOG).
OS EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OS CARNIVORA; FISSIPEDIA; CANIDAE; CANIS.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=JUGULAR VEIN ENDOTHELIAL;
RX MEDLINE; 97176620.
RA KUMAR A.G., BALLANTYNE C.M., MICHAEL L.H., KUKIELKA G.L., YOUNGER K.A.,
RA LINDSEY M.L., HAWKINS H.K., BIRDSALL H.H., MACKAY C.R., LAROSA G.J.,
RA ROSSEN R.D., SMITH C.W., ENTMAN M.L.;
RT "Induction of monocyte chemoattractant protein-1 in the small veins
of the ischemic and reperfused canine myocardium.";
RL CIRCULATION 95:693-700(1997).
CC -!- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES, BUT NOT
CC NEUTROPHILS. IMPORTANT FACTOR IN THE COURSE OF THE INFLAMMATORY
CC REACTION TO REPERFUSION OF THE PREVIOUSLY ISCHEMIC MYOCARDIUM.
CC MAY PLAY A SIGNIFICANT ROLE IN MONOCYTE TRAFFICKING INTO THE
CC REPERFUSED MYOCARDIUM.
CC -!- SUBUNIT: MONOMER OR HOMODIMER; IN EQUILIBRIUM (BY SIMILARITY).
CC -!- INDUCTION: BY TNF-ALPHA.
CC -!- TISSUE SPECIFICITY: ENDOTHELIUM OF SMALL VEINS AND INTRAFASCICULAR
CC VEINS, AND INFILTRATING LEUKOCYTES.
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
CC C-C) (CHEMOKINE CC).
CC
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CC
CC EMBL; Z48479; G683717; -
CC EMBL; X79416; G872313; -
CC DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
CC DR PFAM; PF000048; i18; 1.
CC DR HSP; P13500; 1D0N.
CC KW CYTOKINE; CHEMOTAXIS; SIGNAL; INFLAMMATORY RESPONSE.
CC FT SIGNAL 1 23 BY SIMILARITY.
CC FT CHAIN 24 99 MONOCYTE CHEMOTACTIC PROTEIN 1.
CC FT MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID (BY
CC SIMILARITY).
CC FT DISULFID 34 59 BY SIMILARITY.
CC FT DISULFID 35 75 BY SIMILARITY.
CC FT SEQUENCE 99 AA; 10976 MW; ECC3AFB4 CRC32;
CC SQ
CC
CC Query Match 83.0%; Score 83; DB 1; Length 99;
CC Best Local Similarity 66.7%; Pred. No. 1.10e-05;
CC Matches 8; Conservative 4; Mismatches 0; Indels 0; Gaps 0;
CC
CC Db 73 EICADPKKWQV 84
CC QY 1 EICADPKRWVR 12
CC
CC RESULT 7 MCP2_BOVIN STANDARD; PRT; 99 AA.
CC ID Q09141;
CC DT 01-NOV-1995 (REL. 32, CREATED)
CC DT 01-NOV-1995 (REL. 32, LAST SEQUENCE UPDATE)
CC DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
CC DE MONOCYTE CHEMOTACTIC PROTEIN 2 PRECURSOR (MCP-2) (MONOCYTE
CC CHEMOATTRACTANT PROTEIN 2).
CC GN SCY28 OR MCP2.
CC OS BUS TAUROS (BOVINE).
CC OS EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
CC OC ARTIODACTYLA; RUMINANTIA; PECORA; BOVIDAE; BOVINAE; BOS.
CC RN [1]
CC RP SEQUENCE FROM N.A.
CC RX MEDLINE; 94114084.
CC RA WEMPE F., HANES J., SCHEIT K.H.;
CC RT "Cloning of the gene for bovine monocyte chemoattractant protein-2.";
CC RL DNA CELL BIOL. 13:1-8(1994).
CC CC -!- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES. THIS PROTEIN
CC CAN BIND HEPARIN.
CC CC -!- SUBUNIT: MONOMER OR HOMODIMER; IN EQUILIBRIUM (BY SIMILARITY).
CC CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
CC C-C) (CHEMOKINE CC).
CC
CC
CC Query Match 84.0%; Score 84; DB 1; Length 101;
CC Best Local Similarity 75.0%; Pred. No. 6.50e-06;
CC Matches 9; Conservative 3; Mismatches 0; Indels 0; Gaps 0;
CC
CC Db 73 EICADPKKWQV 84
CC QY 1 EICADPKRWVR 12
CC
CC RESULT 6 MCP1_PIG STANDARD; PRT; 99 AA.
CC ID P42831;
CC DT 01-NOV-1995 (REL. 32, CREATED)
CC DT 01-NOV-1995 (REL. 32, LAST SEQUENCE UPDATE)
CC DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
CC DE MONOCYTE CHEMOTACTIC PROTEIN 1 PRECURSOR (MCP-1).
CC GN SCY22.
CC OS SUS SCROFA (PIG).
CC OS EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
CC OC ARTIODACTYLA; SUIFORMES; SUINA; SUIDAE; SUS.

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DR EMBL; S67954; E18856; -;
DR EMBL; S67956; G544997; -;
DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
DR PFAM; PF00048; i18; 1.
DR HSSP; P80098; INCV.
KW CYTOKINE; CHEMOTAXIS; SIGNAL; HEPARIN-BINDING; INFLAMMATORY RESPONSE.
FT SIGNAL 1 23 BY SIMILARITY.
FT CHAIN 24 99 MONOCYTE CHEMOTACTIC PROTEIN 2.
FT MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID (BY
FT SIMILARITY).
FT DISULFID 34 59 BY SIMILARITY.
FT DISULFID 35 75 BY SIMILARITY.
SQ SEQUENCE 99 AA; 10900 MW; 9BA2CD26 CRC32;

Query Match 81.0%; Score 81; DB 1; Length 99;

Best Local Similarity 58.3%; Pred. No. 3.08e-05;

Matches 7; Conservative 5; Mismatches 0; Indels 0; Gaps 0;

Db 73 DVCADPKKKVQ 84

QY 1 EICADPKRWVR 12

RESULT

ID EOTA_MOUSE STANDARD; PRT; 97 AA.
AC P48298;
DT 01-FEB-1996 (REL. 33, CREATED)
DT 01-FEB-1996 (REL. 33, LAST SEQUENCE UPDATE)
DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
DE EOTAXIN PRECURSOR (EOSINOPHIL CHEMOTACTIC PROTEIN).
OS SCYAL1.
GN MUS MUSCULUS (MOUSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; MUS.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=LUNG;
RX MEDLINE; 96004658.
RA ROTHENBERG M.E., LUSTER A.D., LEDER P.;
RT "Murine eotaxin: an eosinophil chemoattractant inducible in
RT endothelial cells and in interleukin 4-induced tumor suppression."
RL PROC. NATL. ACAD. SCI. U.S.A. 92:8960-8964(1995).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=C57BL/6J; TISSUE=LUNG;
RX MEDLINE; 96158746.
RA GONZALO J.-A., JTA G.-O., AGUIRRE V., FRIEND D., COYLE A.J.,
RA JENKINS N.A., LIN G.-S., KATZ H., LICHTMAN A., COPELAND N.G., KOPE M.,
RA GUTIERREZ-RAMOS J.-C.;
RT "Mouse eotaxin expression parallels eosinophil accumulation during
RT lung allergic inflammation but it is not restricted to a Th2-type
RT response."
RL IMMUNITY 4:1-14(1996).

CC -!- FUNCTION: IN RESPONSE TO THE PRESENCE OF ALLERGENS, THIS PROTEIN
CC DIRECTLY PROMOTES THE ACCUMULATION OF EOSINOPHILS (A PROMINENT
CC FEATURE OF ALLERGIC INFLAMMATORY REACTIONS), BUT NOT
CC LYMPHOCYTES, MACROPHAGES OR NEUTROPHILS.
CC -!- SUBCELLULAR LOCATION: EXTRACELLULAR.
CC -!- TISSUE SPECIFICITY: EXPRESSED CONSTITUTIVELY IN THE THYMUS.
CC EXPRESSION INDUCIBLE IN THE LUNG (TYPE I ALVEOLAR EPITHELIAL
CC CELLS), INTESTINE, HEART, SPLEEN, KIDNEY.
CC -!- INDUCTION: BY INTERFERON-GAMMA AND LIPOPOLYSACCHARIDE (LPS).
CC -!- PTM: O-GLYCOSYLATED (PROBABLE).
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
CC C-C) (CHEMOKINE CC).

CC

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DR EMBL; U26426; G995911; -;
DR EMBL; U40672; G1113937; -;
DR MGD; MGI:103576; SCYAL1.
DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
DR PFAM; PF00048; i18; 1.
DR HSSP; P80098; INCV.
KW EOSINOPHIL; CYTOKINE; CHEMOTAXIS; GLYCOPROTEIN; SIGNAL;
FT INFLAMMATORY RESPONSE.
FT SIGNAL 1 23 POTENTIAL.
FT CHAIN 24 97 EOTAXIN.
FT DISULFID 32 57 BY SIMILARITY.
FT DISULFID 33 73 BY SIMILARITY.
SQ SEQUENCE 97 AA; 10893 MW; F85A96BC CRC32;

Query Match 80.0%; Score 80; DB 1; Length 97;

Best Local Similarity 75.0%; Pred. No. 5.16e-05;

Matches 9; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 71 EICADPKKKVQ 82

QY 1 EICADPKRWVR 12

RESULT

ID EOTA_RAT STANDARD; PRT; 97 AA.
AC P97545; 008780;
DT 15-JUL-1998 (REL. 36, CREATED)
DT 15-JUL-1998 (REL. 36, LAST SEQUENCE UPDATE)
DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
DE EOTAXIN PRECURSOR (EOSINOPHIL CHEMOTACTIC PROTEIN).
OS RATTUS NORVEGICUS (RAT).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; RATTUS.
RN [1]
RP SEQUENCE FROM N.A.
RA WILLIAMS C.M., NEWTON D.J., WILSON S.A., COLEMAN J.C.,
RA FLANAGAN B.F.;
RL SUBMITTED (DEC-1996) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [2]
RP SEQUENCE FROM N.A.
RC TISSUE=LUNG;
RA ISHII Y.;
RL SUBMITTED (MAY-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
CC -!- FUNCTION: IN RESPONSE TO THE PRESENCE OF ALLERGENS, THIS PROTEIN
CC DIRECTLY PROMOTES THE ACCUMULATION OF EOSINOPHILS, A PROMINENT
CC FEATURE OF ALLERGIC INFLAMMATORY REACTIONS (BY SIMILARITY).
CC -!- SUBCELLULAR LOCATION: EXTRACELLULAR.
CC -!- PTM: O-GLYCOSYLATED (PROBABLE).
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
CC C-C) (CHEMOKINE CC).

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DR EMBL; Y08358; E274141; -;
DR EMBL; U96637; G2098785; -;
DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
DR PFAM; PF00048; i18; 1.
DR HSSP; P80098; INCV.

Sat Feb 5 12:04:47 2000

genomic organization, complete sequence, and chromosomal location of the gene for human eotaxin (SCY11), an eosinophil-specific CC chemokine.;
 GENOMICS 41:471-476(1997).

[6]

SEQUENCE FROM N.A.

TISSUE=LUNG;

PC MEDLINE; 97445071.

RA HEIN H., SCHLUETER C., KULKE R., CHRISTOPHERS E., SCHROEDER J.M.,

RA BARTELS J.;

RA "Genomic organization, sequence, and transcriptional regulation of

the human eotaxin gene.*;

RT BIOCHEM. BIOPHYS. RES. COMMUN. 237:537-542(1997).

RL [7]

RP STRUCTURE BY NMR.

RX MEDLINE; 98380469.

RA CRUMP M.P., RAJARATHNAM K., KIM K.S., CLARK-LEWIS I., SYKES B.D.;

RT "Solution structure of eotaxin, a chemokine that selectively recruits

eosinophils in allergic inflammation.*;

RL BIOCHEMISTRY 37:11670-11678(1998).

CC -!- FUNCTION: IN RESPONSE TO THE PRESENCE OF ALLERGENS, THIS PROTEIN

DIRECTLY PROMOTES THE ACCUMULATION OF EOSINOPHILS, A PROMINENT

FEATURE OF ALLERGIC INFLAMMATORY REACTIONS.

CC -!- SUBCELLULAR LOCATION: EXTRACELLULAR.

CC -!- PTM: O-GLYCOSYLATED (PROBABLE).

CC -!- INDUCTION: BY TNF-ALPHA, IL-1-ALPHA AND INTERFERON GAMMA.

CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE

C-C) (CHEMOKINE CC).

CC -----

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CC -----

CC EMBL; U46573; G1280141; -

DR EMBL; U34780; G1185440; -

DR EMBL; D49372; G1552241; -

DR EMBL; D69291; E221070; -

DR EMBL; 275668; E251275; -

DR EMBL; 275669; E251258; -

DR EMBL; U46572; G2088509; -

DR EMBL; 292709; E329504; -

DR MIM; 601156; -

DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.

DR PFAM; PF00048; i18; 1.

DR PDB; 2EOT; 11-NOV-98.

DR EOSINOPHIL; CYTOKINE; CHEMOTAXIS; GLYCOPROTEIN; SIGNAL;

KW INFLAMMATORY RESPONSE; POLYMORPHISM; 3D-STRUCTURE.

KW SIGNAL

FT CHAIN 1 23

FT CHAIN 24 97

FT DISULFID 32 57

FT DISULFID 33 73

FT VARIANT 7 7

FT VARIANT 23 23

FT VARIANT 51 51

FT VARIANT 79 79

SQ SEQUENCE 97 AA; 10732 MW; 6C0F3D98 CRC32;

Query Match

Best Local Similarity 79.0%; Score 79; DB 1; Length 97;

Matches 8; Conservative

Mismatches 3; Indels 0; Gaps 0;

Db 71 DICADPKKKWQ 82

:|||||:|:

QY 1 EICADPKRWVR 12

RESULT 11

ID MCPA_BOVIN STANDARD; PRT; 99 AA.

AC P28291;

KW EOSINOPHIL; CYTOKINE; CHEMOTAXIS; GLYCOPROTEIN; SIGNAL;

KW INFLAMMATORY RESPONSE.

FT SIGNAL 1 23

FT CHAIN 24 97

FT DISULFID 32 57

FT DISULFID 33 73

FT CARBOHYD 94 94

FT CONFLICT 3 3

FT SEQUENCE 97 AA; 10851 MW; 05B4ED45 CRC32;

Query Match

Best Local Similarity 80.0%; Score 80; DB 1; Length 97;

Matches 9; Conservative

Mismatches 2; Indels 0; Gaps 0;

Db 71 EICADPKKKWQ 82

:|||||:|:

QY 1 EICADPKRWVR 12

RESULT 10

ID EOTA_HUMAN STANDARD; PRT; 97 AA.

AC P51671; P50877; Q92490; Q92491;

DT 01-OCT-1996 (REL. 34, CREATED)

DT 01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)

DT 15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)

DE EOTAXIN PRECURSOR (EOSINOPHIL CHEMOTACTIC PROTEIN).

GN SCY11.

OS HOMO SAPIENS (HUMAN).

OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;

OC PRIMATES; CATARRHINI; HOMINIDAE; HOMO.

CC [1]

RP SEQUENCE FROM N.A.

RX MEDLINE; 96181758.

RA GARCIA-ZEPEDA E.A., ROTHENBERG M.E., OWNBEY T.R., LEDER P.,

RA LUSTER A.D.;

RT "Human eotaxin is a specific chemoattractant for eosinophil cells and

provides a new mechanism to explain tissue eosinophilia.*;

RL NAT. MED. 2:449-456(1996).

RN [2]

RP SEQUENCE FROM N.A.

RX MEDLINE; 96189937.

RA PONATH P.D., QIN S., RINGLER D.J., CLARK-LEWIS I., WANG J., KASSAM N.,

RA SMITH H., SHI X., GONZALO J.A., NEWMAN W., GUTIERREZ-RAMOS J.C.,

RA MACKAY C.R.;

RA "Cloning of the human eosinophil chemoattractant, eotaxin.

Expression, receptor binding, and functional properties suggest a

mechanism for the selective recruitment of eosinophils.*;

RL J. CLIN. INVEST. 97:604-612(1996).

RN [3]

RP SEQUENCE FROM N.A.

RC TISSUE=SMALL INTESTINE;

RC MEDLINE; 96205964.

RA KITAHARA M., NAKAJIMA T., IMAI T., HARADA S., COMBADIÈRE C.,

RA TIFFANY H.L., MURPHY P.M., YOSHIE O.;

RT "Molecular cloning of human eotaxin, an eosinophil-selective CC

chemokine, and identification of a specific eosinophil eotaxin

receptor, CC chemokine receptor 3.*;

RT J. BIOL. CHEM. 271:7725-7730(1996).

RL [4]

RP SEQUENCE FROM N.A., SEQUENCE OF 60-65 AND 75-88, AND VARIANTS.

RP TISSUE=FORESKIN;

RP MEDLINE; 96374440.

RA BARTELS J., SCHLUETER C., RICHTER E., NOSO N., KULKE R.,

RA CHRISTOPHERS E., SCHROEDER J.M.;

RT "Human dermal fibroblasts express eotaxin: molecular cloning, mRNA

expression, and identification of eotaxin sequence variants.*;

RL BIOCHEM. BIOPHYS. RES. COMMUN. 225:1045-1051(1996).

RN [5]

RP SEQUENCE FROM N.A.

RC TISSUE=PLACENTA.

RX MEDLINE; 97312708.

RA GARCIA-ZEPEDA E.A., ROTHENBERG M.E., WEREMOWICZ S., SARAFI M.N.,

RA MORTON C.C., LUSTER A.D.;

DT 01-DEC-1992 (REL. 24, CREATED)
 DT 01-DEC-1992 (REL. 24, LAST SEQUENCE UPDATE)
 DT 01-NOV-1995 (REL. 32, LAST ANNOTATION UPDATE)
 DE MONOCYTE CHEMOTACTIC PROTEIN 1A PRECURSOR (MCP-1A) (MCP-1) (ACIDIC
 DE SEMINAL FLUID PROTEIN).
 OS BOS TAURUS (BOVINE)
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC ARTIODACTYLA; RUMINANTIA; PECORA; BOVIDAE; BOVINAE; BOS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE-SEMINAL PLASMA;
 RX MEDLINE; 92096117.
 RA WEMPE F., HENSCHEN A., SCHEIT K.H.;
 RT "Gene expression and cDNA cloning identified a major basic protein
 RT constituent of bovine seminal plasma as bovine
 RT monocyte-chemoattractant protein-1 (MCP-1).";
 RL DNA CELL BIOL. 10:671-679(1991).
 RN [2]
 RP SEQUENCE FROM N.A.
 RC TISSUE-SEMINAL PLASMA;
 RX MEDLINE; 92181448.
 RA WEMPE F., EINSPIANER R., SCHEIT K.H.;
 RT "Characterization by cDNA cloning of the mRNA of a new growth factor
 RT from bovine seminal plasma: acidic seminal fluid protein.";
 RL BIOCHEM. BIOPHYS. RES. COMMUN. 183:232-237(1992).
 RN [3]
 RP SEQUENCE FROM N.A.
 RC MEDLINE; 94338337.
 RA WEMPE F., KUHLMANN J.K., SCHEIT K.H.;
 RT "Characterization of the bovine monocyte chemoattractant protein-1
 RT gene.";
 RL BIOCHEM. BIOPHYS. RES. COMMUN. 202:1272-1279(1994).
 CC -1- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES, BUT NOT
 CC NEUTROPHILS.
 CC -1- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
 CC C-C) (CHEMOKINE CC).
 CC -----
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 CC -----
 DR EMBL; L32659; G624394; -;
 DR EMBL; M84602; G163395; -;
 DR PIR; A39296; A39296.
 DR PIR; JC2336; JC2336.
 DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
 DR PFAM; PF00048; i18; 1.
 DR HSP; P13500; 1DON.
 KW CYTOKINE; CHEMOTAXIS; SIGNAL.
 FT SIGNAL 1 23 BY SIMILARITY.
 FT CHAIN 24 24 MONOCYTE CHEMOTACTIC PROTEIN 1A.
 FT MOD_RES 24 24 PYROLIDONE CARBOXYLIC ACID (BY
 FT SIMILARITY).
 FT DISULFID 34 59 BY SIMILARITY.
 FT DISULFID 35 75 BY SIMILARITY.
 SQ SEQUENCE 99 AA; 11114 MW; C8F5821D CRC32;
 Query Match 79.0%; Score 79; DB 1; Length 99;
 Best Local Similarity 66.7%; Pred. No. 8.60e-05;
 Matches 8; Conservative 4; Mismatches 0; Indels 0; Gaps 0;
 Db 73 ELCADPKOKVQ 84
 QY 1 EICADPKRWR 12
 RESULT 12
 ID M11A_RAT
 AC P50229; STANDARD; PRT; 92 AA.

DT 01-OCT-1996 (REL. 34, CREATED)
 DT 01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)
 DT 01-NOV-1997 (REL. 35, LAST ANNOTATION UPDATE)
 DE MACROPHAGE INFLAMMATORY PROTEIN 1-ALPHA PRECURSOR (MIP-1-ALPHA).
 GN SCYA3 OR MIP1A.
 OS RATTUS NORVEGICUS (RAT).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; RATTUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN-CD-1; TISSUE=LUNG;
 RX MEDLINE; 95298037.
 RA SHI M.M., GODLESKI J.J., PAULASKIS J.D.;
 RT "Molecular cloning and posttranscriptional regulation of macrophage
 RT inflammatory protein-1 alpha in alveolar macrophages.";
 RL BIOCHEM. BIOPHYS. RES. COMMUN. 211:289-295(1995).
 RN [2]
 RP SEQUENCE FROM N.A.
 RC STRAIN=LONG EVANS; TISSUE=LUNG;
 RX MEDLINE; 95238980.
 RA SHANLEY T.P., SCHMAL H., FRIEDL H.P., JONES M.L., WARD P.A.;
 RT "Role of macrophage inflammatory protein-1 alpha (MIP-1 alpha) in
 RT acute lung injury in rats.";
 RL J. IMMUNOL. 154:4793-4802(1995).
 RN [3]
 RP SEQUENCE OF 24-57.
 RC STRAIN=WISTAR;
 RX MEDLINE; 96183056.
 RA NAKAGAWA H., SHIOTA S., TAKANO K., SHIBATA F., KATO H.;
 RT "Cytokine-induced neutrophil chemoattractant (CINC)-2 alpha, a novel
 RT member of rat GRO/CINC, is a predominant chemokine produced by
 RT lipopolysaccharide-stimulated rat macrophages in culture.";
 RL BIOCHEM. BIOPHYS. RES. COMMUN. 220:945-948(1996).
 CC -1- FUNCTION: MONOKINE WITH INFLAMMATORY AND CHEMOKINETIC PROPERTIES.
 CC HAS CHEMOTACTIC ACTIVITY FOR MONOCYTES, NEUTROPHILS, EOSINOPHILS,
 CC BASOPHILS, AND LYMPHOCYTES. REQUIRED FOR LUNG TNF-ALPHA
 CC PRODUCTION, NEUTROPHIL RECRUITMENT AND SUBSEQUENT LUNG INJURY AND
 CC MAY FUNCTION AS AN AUTOCRINE MEDIATOR FOR THE MACROPHAGE
 CC PRODUCTION OF TNF-ALPHA WHICH IN TURN UP-REGULATES VASCULAR
 CC ADHESION MOLECULES REQUIRED FOR NEUTROPHIL INFILUX. THIS PROTEIN
 CC BINDS HEPARIN.
 CC -1- INDUCTION: BY LIPOPOLYSACCHARIDE (LPS).
 CC -1- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
 CC C-C) (CHEMOKINE CC).
 CC -----
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 CC -----
 DR EMBL; U22414; G790633; -;
 DR EMBL; U06435; G459150; -;
 DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
 DR PFAM; PF00048; i18; 1.
 DR HSP; P13236; 1HUN.
 KW CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL; HEPARIN-BINDING.
 FT SIGNAL 1 23
 FT CHAIN 24 92 MACROPHAGE INFLAMMATORY PROTEIN 1-ALPHA.
 FT DISULFID 34 57 BY SIMILARITY.
 FT DISULFID 35 73 BY SIMILARITY.
 FT CONFLICT 6 6 A -> T (IN REF. 2).
 FT CONFLICT 57 57 C -> W (IN REF. 2 AND 3).
 SQ SEQUENCE 92 AA; 10335 MW; F48CF89F CRC32;
 Query Match 78.0%; Score 78; DB 1; Length 92;
 Best Local Similarity 75.0%; Pred. No. 1.43e-04;
 Matches 9; Conservative 2; Mismatches 1; Indels 0; Gaps 0;
 Db 71 QICADPKRETWQ 82
 QY :||||||| |||

Sat Feb 5 12:04:47 2000

US-09-150-813-67.rsp

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QY      1 EICADPKRWVR 12
RESULT 13
ID      IL8_SHEEP      STANDARD:      PRT:      101 AA.
AC      P36925;
DT      01-JUN-1994 (REL. 29, CREATED)
DT      01-JUN-1994 (REL. 29, LAST SEQUENCE UPDATE)
DT      01-NOV-1995 (REL. 32, LAST ANNOTATION UPDATE)
DE      INTERLEUKIN-8 PRECURSOR (IL-8).
GN      IL8.
OS      OVIS ARIES (SHEEP).
OC      EURKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC      ARTIODACTYLA; RUMINANTIA; PECORA; BOVOIDEA; BOVIDAE; CAPRINAE; OVIS.
RN      [1]
RP      SEQUENCE FROM N.A.
RX      MEDLINE: 95121931.
RA      LEGASTELOIS I., GREENLAND T., ARNAUD P., MORNEX J.F., CORDIER G.;
RT      "Sequencing of the ovine interleukin-8-encoding cDNA using the
RT      polymerase chain reaction.";
RL      GENE 150:367-369(1994).
RN      [2]
RP      SEQUENCE FROM N.A.
RX      MEDLINE: 95137691.
RA      SEOW H.F., YOSHIMURA T., WOOD P.R., COLDITZ I.G.;
RT      "Cloning, sequencing, expression and inflammatory activity in skin of
RT      ovine interleukin-8.";
RL      IMMUNOL. CELL BIOL. 72:398-405(1994).
CC      -!- FUNCTION: IL-8 IS A CHEMOTACTIC FACTOR THAT ATTRACTS NEUTROPHILS,
CC      BASOPHILS, AND T-CELLS, BUT NOT MONOCYTES. IT IS ALSO INVOLVED IN
CC      NEUTROPHIL ACTIVATION. IT IS RELEASED FROM SEVERAL CELL TYPES IN
CC      RESPONSE TO AN INFLAMMATORY STIMULUS.
CC      -!- SUBUNIT: HOMODIMER.
CC      -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
CC      C-X-C) (CHEMOKINE CX-C).
CC      -----
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CC      or send an email to license@isb-sib.ch).
CC      -----
CC      EMBL: X78306; G463254; -.
CC      EMBL: S74436; G786591; -.
CC      PIR: S42496; S42496.
CC      PROSITE: PS00471; SMALL_CYTOKINES_CXC; 1.
CC      PFAM: PF00048; i18; 1.
CC      HSP: P10145; i18; 1.
CC      CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.
CC      SIGNAL 1 22 BY SIMILARITY.
CC      CHAIN 23 101 INTERLEUKIN-8.
CC      DISULFID 34 61 BY SIMILARITY.
CC      DISULFID 36 77 BY SIMILARITY.
CC      SEQUENCE 101 AA; 11292 MW; 5A574527 CRC32;
CC      -----
Query Match 78.0%; Score 78; DB 1; Length 101;
Best Local Similarity 66.7%; Pred. No. 1.43e-04;
Matches 8; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

Db 75 EICADPKRWVQ 86
QY      1 EICADPKRWVR 12
RESULT 14
ID      IL8_CANFA      STANDARD:      PRT:      101 AA.
AC      P41324;
DT      01-FEB-1995 (REL. 31, CREATED)
DT      01-FEB-1995 (REL. 31, LAST SEQUENCE UPDATE)
DT      15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)
DE      INTERLEUKIN-8 PRECURSOR (IL-8).
GN      IL8.
OS      CANIS FAMILIARIS (DOG).
OS      EURKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC      CARNIVORA; FISSIPEDIA; CANIDAE; CANIS.
RN      [1]
RP      SEQUENCE FROM N.A.
RX      MEDLINE: 94010328.
RA      ISHIKAWA J., SUZUKI S., HOTTA K., HIROTA Y., MIZUNO S., SUZUKI K.;
RT      "Cloning of a canine gene homologous to the human
RT      interleukin-8-encoding gene.";
RL      GENE 131:305-306(1993).
RN      [2]
RP      SEQUENCE FROM N.A.
RX      MEDLINE: 95127913.
RA      MATSUMOTO Y., MOHAMED A., ONODERA T., KATO H., OHASHI T.,
RA      GOITSUKA R., TSUJIMOTO H., HASEGAWA A., FURUSAWA S., YOSHIMURA K.,
RA      ISHIKAWA J., HOTTA K., SUZUKI K., HIROTA Y.;
RT      "Molecular cloning and expression of canine interleukin 8 cDNA.";
RL      CYTOKINE 6:455-461(1994).
RN      [3]
RP      SEQUENCE FROM N.A.
RX      STRAIN=MONGREL; TISSUE=JUGULAR VEIN;
RX      MEDLINE: 95114148.
RA      KUKIELKA G.L., SMITH W.C., LAROSA G.J., MANNING A.M.,
RA      MENDOZA L.H., DALY T.J., HUGHES B.J., YOKER K.A., HAWKINS H.K.,
RA      MICHAEL L.H., ROT A., ENTMAN M.L.;
RT      "Interleukin-8 gene induction in the myocardium after ischemia and
RT      reperfusion in vivo.";
RL      J. CLIN. INVEST. 95:89-103(1994).
RN      [4]
RP      SEQUENCE FROM N.A.
RX      STRAIN=BEAGLE;
RX      MEDLINE: 97230298.
RA      STRAUBINGER R.K., STRAUBINGER A.F., HARTER L., JACOBSON R.H.,
RA      CHANG Y.F., SUMMERS B.A., ERB H.N., APPEL M.J.;
RT      "Borrelia burgdorferi migrates into joint capsules and causes an up-
RT      regulation of interleukin-8 in synovial membranes of dogs
RT      experimentally infected with ticks.";
RL      INFECT. IMMUN. 65:1273-1285(1997).
CC      -!- FUNCTION: IL-8 IS A CHEMOTACTIC FACTOR THAT ATTRACTS NEUTROPHILS,
CC      BASOPHILS, AND T-CELLS, BUT NOT MONOCYTES. IT IS ALSO INVOLVED IN
CC      NEUTROPHIL ACTIVATION. IT IS RELEASED FROM SEVERAL CELL TYPES IN
CC      RESPONSE TO AN INFLAMMATORY STIMULUS.
CC      -!- SUBUNIT: HOMODIMER.
CC      -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
CC      C-X-C) (CHEMOKINE CX-C).
CC      -----
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CC      or send an email to license@isb-sib.ch).
CC      -----
CC      EMBL: D28772; G517100; -.
CC      EMBL: D14285; G475152; -.
CC      EMBL: U10308; G607814; -.
CC      EMBL: AF048717; G2935472; -.
CC      PROSITE: PS00471; SMALL_CYTOKINES_CXC; 1.
CC      PFAM: PF00048; i18; 1.
CC      HSP: P10145; i18; 1.
CC      CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.
CC      SIGNAL 1 22 BY SIMILARITY.
CC      CHAIN 23 101 INTERLEUKIN-8.
CC      DISULFID 34 61 BY SIMILARITY.
CC      DISULFID 36 77 BY SIMILARITY.
CC      SEQUENCE 101 AA; 11280 MW; 7C49D62D CRC32;
CC      -----
Query Match 78.0%; Score 78; DB 1; Length 101;
Best Local Similarity 66.7%; Pred. No. 1.43e-04;
Matches 8; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

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Db 75 EVCLDPKRWQ 86
QY 1 EICADPKRWVR 12

RESULT 15
ID IL8_PIG STANDARD; PRT; 103 AA.
AC P26894; P22951;
DT 01-AUG-1991 (REL. 19, CREATED)
DT 01-AUG-1992 (REL. 23, LAST SEQUENCE UPDATE)
DT 01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)
DE INTERLEUKIN-8 PRECURSOR (IL-8) (ALVEOLAR MACROPHAGE CHEMOTACTIC FACTOR
DE I) (AMCF-I).
GN IL8.
OS SUS SCROFA (PIG).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC ARTIODACTYLA; SUIFORMES; SUINA; SUIDAE; SUS.
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE; 94103307.
RA LIN G., PEARSON A.E., SCAMURRA R.W., ZHOU Y., BAARSCH M.J.,
RA WEISS D.J., MURTAUGH M.P.;
RT "Regulation of interleukin-8 expression in porcine alveolar
RT macrophages by bacterial lipopolysaccharide.";
RL J. BIOL. CHEM. 269:77-85(1994).
RN [2]
RP SEQUENCE FROM N.A.
RA SANJANWALA M.;
RL SUBMITTED (JUL-1991) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [3]
RP SEQUENCE FROM N.A., AND SEQUENCE OF 26-45.
RX TISSUE-LUNG;
RX MEDLINE; 93041741.
RA GOODMAN R.B., FOSTER D.C., MATHEWES S.L., OSBORN S.G., KUIJPER J.L.,
RA FORSTROM J.W., MARTIN T.R.;
RT "Molecular cloning of porcine alveolar macrophage-derived neutrophil
RT chemotactic factors I and II; identification of porcine IL-8 and
RT another interleukin-alpha protein.";
RL BIOCHEMISTRY 31:10483-10490(1992).
RN [4]
RP REVISION TO 23.
RA GOODMAN R.B.;
RL SUBMITTED (MAR-1996) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [5]
RP SEQUENCE OF 26-45.
RX STRAIN-YORKSHIRE;
RX MEDLINE; 91217086.
RA GOODMAN R.B., FORSTROM J.W., OSBORN S.G., CHI E.Y., MARTIN T.R.;
RT "Identification of two neutrophil chemotactic peptides produced by
RT porcine alveolar macrophages.";
RL J. BIOL. CHEM. 266:8455-8463(1991).
CC -!- FUNCTION: IL-8 IS A CHEMOTACTIC FACTOR THAT ATTRACTS NEUTROPHILS,
CC BASOPHILS, AND T-CELLS, BUT NOT MONOCYTES. IT IS ALSO INVOLVED IN
CC NEUTROPHIL ACTIVATION. IT IS RELEASED FROM SEVERAL CELL TYPES IN
CC RESPONSE TO AN INFLAMMATORY STIMULUS.
CC -!- SUBUNIT: HOMODIMER.
CC -!- TISSUE SPECIFICITY: ALVEOLAR MACROPHAGES.
CC -!- INDUCTION: BY LIPOPOLYSACCHARIDE.
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
CC C-X-C) (CHEMOKINE CXCL).

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or send an email to license@isb-sib.ch).

EMBL; M86923; G164521; -
EMBL; X61151; G516197; -
EMBL; M99367; G1235612; -

DR PIR; A44253; A44253.
DR PIR; A39819; A39819.
DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
DR PFAM; PF00048; i18; 1.
DR HSSP; P10145; i18.
KW CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.
FT SIGNAL 1 25
FT CHAIN 26 103 INTERLEUKIN-8.
FT DISULFID 34 61 BY SIMILARITY.
FT DISULFID 36 77 BY SIMILARITY.
FT CONFLICT 33 34 RC -> CR (IN REF. 5).
FT CONFLICT 87 87 K -> KK (IN REF. 2).
SQ SEQUENCE 103 AA; 11633 MW; A012D59D CRC32;

Query Match 78.0%; Score 78; DB 1; Length 103;
Best Local Similarity 66.7%; Pred. No. 1.43e-04;
Matches 8; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

Db 75 EVCLDPKRWQ 86
QY 1 EICADPKRWVR 12

Search completed: Fri Feb 4 17:51:17 2000
Job time : 7 secs.

M P S R C H
(TM)

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MPSrch_pp protein - protein database search, using Smith-Waterman algorithm

Run on: Fri Feb 4 17:50:29 2000; MasPar time 3.74 Seconds
128.410 Million cell updates/sec

Tabular output not generated.

Title: >US-09-150-813-67
Description: (1-12) from US09150813.ppe
Perfect Score: 100
Sequence: 1 EICADPKRWVR 12

Scoring table: PAM 150
Gap 15

Searched: 122810 seqs, 40068593 residues

Post-processing: Minimum Match 0%
Listing first 45 summaries

Database: p1r60
1:p1r1 2:p1r2 3:p1r3 4:p1r4

Statistics: Mean 25.732; Variance 40.739; scale 0.632

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

| SUMMARIES | | | | | | | |
|------------|-------|---------------|--------------|-------------|-----------------------|----------|--|
| Result No. | Score | Query Match % | Length DB ID | Description | Pred. No. | | |
| 1 | 98 | 98.0 | 99 | 2 JC5295 | monocyte chemotactic | 1.72e-07 | |
| 2 | 84 | 84.0 | 97 | 2 JC4912 | ectaxin precursor - h | 1.20e-04 | |
| 3 | 84 | 84.0 | 99 | 2 A60299 | monocyte chemotactic | 1.20e-04 | |
| 4 | 83 | 83.0 | 99 | 2 JC2136 | monocyte chemotactic | 1.89e-04 | |
| 5 | 79 | 79.0 | 99 | 2 JC2336 | monocyte chemotactic | 1.13e-03 | |
| 6 | 79 | 79.0 | 99 | 2 A39296 | monocyte chemotactic | 1.13e-03 | |
| 7 | 78 | 78.0 | 92 | 2 I52322 | macrophage inflamato | 1.76e-03 | |
| 8 | 78 | 78.0 | 95 | 2 JN0841 | interleukin-8 - dog | 1.76e-03 | |
| 9 | 78 | 78.0 | 101 | 2 I46997 | interleukin-8 - sheep | 1.76e-03 | |
| 10 | 78 | 78.0 | 101 | 2 S42496 | interleukin 8 - sheep | 1.76e-03 | |
| 11 | 78 | 78.0 | 103 | 2 A4253 | alveolar macrophage c | 1.76e-03 | |
| 12 | 78 | 78.0 | 103 | 2 A53096 | interleukin-8 precurs | 1.76e-03 | |
| 13 | 78 | 78.0 | 125 | 2 I46857 | monocyte chemotactic | 1.76e-03 | |
| 14 | 77 | 77.0 | 109 | 2 A54678 | monocyte chemotactic | 2.74e-03 | |
| 15 | 75 | 75.0 | 101 | 2 JC2417 | monocyte chemotactic | 6.56e-03 | |
| 16 | 75 | 75.0 | 101 | 2 I46871 | interleukin-8 - rabbi | 6.56e-03 | |
| 17 | 75 | 75.0 | 120 | 2 I48147 | monocyte chemotactic | 6.56e-03 | |
| 18 | 74 | 74.0 | 96 | 2 JC2478 | ectaxin precursor - r | 1.01e-02 | |
| 19 | 74 | 74.0 | 96 | 2 I48099 | ectaxin precursor - g | 1.01e-02 | |
| 20 | 72 | 72.0 | 91 | 1 A28815 | monocyte chemotactic | 2.38e-02 | |
| 21 | 71 | 71.0 | 92 | 2 A32393 | macrophage inflamato | 3.65e-02 | |
| 22 | 71 | 71.0 | 148 | 2 A30209 | PDGF-inducible JE gly | 3.65e-02 | |
| 23 | 70 | 70.0 | 99 | 2 A37034 | interleukin-8 precurs | 5.56e-02 | |

| | | | | | | |
|----|----|------|-------|----------|------------------------|----------|
| 24 | 70 | 70.0 | 114 | 1 ETMSL | lymphotactin precursor | 5.56e-02 |
| 25 | 69 | 69.0 | 50 | 2 C60407 | monocyte adherence-in | 8.46e-02 |
| 26 | 69 | 69.0 | 92 | 1 A31767 | macrophage inflamato | 1.28e-01 |
| 27 | 68 | 68.0 | 114 | 1 ETHUL | lymphotactin precursor | 1.94e-01 |
| 28 | 67 | 67.0 | 92 | 2 A30574 | macrophage inflamato | 1.94e-01 |
| 29 | 67 | 67.0 | 92 | 2 C30552 | LD78-beta protein pre | 1.94e-01 |
| 30 | 67 | 67.0 | 93 | 2 B35673 | immune activation gen | 1.94e-01 |
| 31 | 67 | 67.0 | 148 | 2 S07723 | immediate-early serum | 1.94e-01 |
| 32 | 66 | 66.0 | 92 | 2 I46730 | Neutrophil attractant | 2.92e-01 |
| 33 | 65 | 65.0 | 101 | 2 I48148 | Lymphocyte and monocy | 4.39e-01 |
| 34 | 65 | 65.0 | 120 | 2 JE0177 | pre-B-cell growth-sti | 6.57e-01 |
| 35 | 64 | 64.0 | 89 | 2 A53497 | interleukin-8 homolog | 6.57e-01 |
| 36 | 64 | 64.0 | 89 | 2 I53416 | monocyte chemoattract | 6.57e-01 |
| 37 | 64 | 64.0 | 91 | 1 A46539 | cytokine - mouse | 6.57e-01 |
| 38 | 64 | 64.0 | 93 | 2 I81182 | cytokine SDF-1-beta - | 9.79e-01 |
| 39 | 64 | 64.0 | 93 | 2 G01540 | Chitin synthetase I - | 9.79e-01 |
| 40 | 63 | 63.0 | 760 | 2 S55520 | gene C10 protein - mo | 1.46e+00 |
| 41 | 62 | 62.0 | 116 | 2 I49555 | titin, cardiac muscle | 1.46e+00 |
| 42 | 62 | 62.0 | 26926 | 1 I38344 | RSV-induced protein - | 3.18e+00 |
| 43 | 60 | 60.0 | 103 | 2 I50417 | transformation-induce | 3.18e+00 |
| 44 | 60 | 60.0 | 103 | 2 A26736 | lymphotoxin - bovine | 4.68e+00 |
| 45 | 59 | 59.0 | 204 | 2 S24641 | | |

ALIGNMENTS

RESULT 1

ENTRY JC5295 #type complete
TITLE monocyte chemotactic protein-2 precursor - human
ORGANISM #formal_name Homo sapiens #common_name man
DATE 02-May-1997 #sequence_revision 18-Jul-1997 #text_change 17-Mar-1999

ACCESSIONS JC5295
REFERENCE Van Collie, E.; Froyen, G.; Nomiya, H.; Miura, R.; Fiten, P.; Van Aelst, I.; Van Damme, J.; Opdenakker, G.
#authors Biochem. Biophys. Res. Commun. (1997) 231:726-730
#journal Human monocyte chemotactic protein-2: cDNA cloning and regulated expression of mRNA in mesenchymal cells.
#title
#cross-references M01D:9722420
#accession JC5295

GENETICS mcp-2
CLASSIFICATION #superfamily macrophage inflammatory protein
FEATURE #domain signal sequence #status predicted #label SIG\ 1-23 #product monocyte chemotactic protein-2 #status predicted #label MAR #length 99 #molecular-weight 11246 #checksum 6596

SUMMARY
Query Match 98.0%; Score 98; DB 2; Length 99;
Best Local Similarity 91.7%; Pred. No. 1.72e-07;
Matches 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Db 73 EVCADPKRWVR 84
QY 1 EICADPKRWVR 12
I:|||||
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JC4912
ectaxin precursor - human
#formal_name Homo sapiens #common_name man
01-Nov-1996 #sequence_revision 01-Nov-1996 #text_change

COMMENT
The major HIV-suppressive factors. It plays roles in autoimmune processes such as multiple sclerosis and rheumatoid arthritis and in tumor biology, and contribute to the trafficking and recruitment of the responsive cells.

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13-Nov-1998
JC4912
JC4912
#accessions
#reference
#authors
#journal
#title
#accession
#status
#molecule_type mRNA
#residues 1-97 #label BAR
#cross-references EMBL:275668; NID:g1531982; PID:e251275; PID:g1531983
#experimental_source dermal fibroblast
COMMENT This protein has eosinophil specific chemotactic activity.
CLASSIFICATION superfamily macrophage inflammatory protein
KEYWORDS fibroblast
FEATURE
1-18
19-97
SUMMARY
#domain signal sequence #status predicted #label SIG\
#product eotaxin #status predicted #label MAT
#length 97 #molecular-weight 10790 #checksum 448
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Best Local Similarity 75.0%; Pred. No. 1.20e-04;
Matches 9; Conservative 2; Mismatches 1; Indels 0; Gaps 0;
Db 71 DICADPKRWQ 82
QY 1 EICADPKRWVR 12
RESULT 3
ENTRY A60299 #type complete
TITLE monocyte chemoattractant protein 1 precursor - human
ALTERNATE_NAMES MCP-1; glioma-derived monocyte chemotactic factor 1; MCAF; MCP-1; monocyte chemotactic factor 1; monocyte secretory protein; tumor-derived chemotactic factor
CONTAINS glioma-derived chemotactic factor 2 (GDCF-2)
ORGANISM #formal_name Homo sapiens #common_name man
DATE 20-Feb-1993 #sequence_revision 20-Feb-1993 #text_change
ACCESSIONS A35474; A33476; S03339; I51841; A60299; A32300; A32396; A34561; I57488; JCI096
REFERENCE A35474
#authors Shyy, Y.J.; Li, Y.S.; Kolattukudy, P.E.
#journal Biochem. Biophys. Res. Commun. (1990) 169:346-351
#title Structure of human monocyte chemotactic protein gene and its regulation by TPA.
#cross-references MUID:90290466
#accession A35474
#molecule_type DNA
#residues 1-99 #label SHY
#cross-references GB:W37719; NID:g187447; PID:g487124
REFERENCE A33476
#authors Rollins, B.J.; Stier, P.; Ernst, T.; Wong, G.G.
#journal Mol. Cell. Biol. (1989) 9:4687-4695
#title The human homolog of the JE gene encodes a monocyte secretory protein.
#cross-references MUID:90097880
#accession A33476
#molecule_type mRNA
#residues 1-99 #label ROL
#cross-references GB:M30816; GB:M31625; GB:M31626; NID:g188701; PID:g386961
REFERENCE S03339
#authors Yoshimura, T.; Yukki, N.; Moore, S.K.; Appella, E.; Lerman, M.T.; Leonard, E.J.
#journal FEBS Lett. (1989) 244:487-493
#title Human monocyte chemoattractant protein-1 (MCP-1). Full-length cDNA cloning, expression in mitogen-stimulated blood mononuclear leukocytes, and sequence similarity to mouse competence gene JE.
#cross-references MUID:89153605
#accession S03339
#status not compared with conceptual translation
#molecule_type mRNA
#residues 1-99 #label YOS
#cross-references GB:X14768; NID:g34513; PID:g34514
#experimental_source glioma cell line U-105MG
REFERENCE I51841
#authors Yoshimura, T.; Leonard, E.J.
#journal Adv. Exp. Med. Biol. (1991) 305:47-56
#title Human monocyte chemoattractant protein-1 (MCP-1).
#cross-references MUID:92095166
#accession I51841
#status preliminary; translated from GB/EMBL/DBJ
#molecule_type mRNA
#residues 1-99 #label YO2
#cross-references GB:S71513; NID:g240867; PID:g240868
REFERENCE A60299
#authors Bottazzi, B.; Colotta, F.; Sica, A.; Nobili, N.; Mantovani, A.
#journal Int. J. Cancer (1990) 45:795-797
#title A chemoattractant expressed in human sarcoma cells (tumor-derived chemotactic factor, TDCF) is identical to monocyte chemoattractant protein-1/monocyte chemotactic and activating factor (MCP-1/MCAF).
#accession A60299
#status not compared with conceptual translation
#molecule_type mRNA
#residues 1-99 #label BOT
REFERENCE A32300
#authors Furutani, Y.; Nomura, H.; Notake, M.; Oyama, Y.; Fukui, T.; Yamada, M.; Larsen, C.G.; Oppenheim, J.J.; Matsushima, K.
#journal Biochem. Biophys. Res. Commun. (1989) 159:249-255
#title Cloning and sequencing of the cDNA for human monocyte chemotactic and activating factor (MCAF).
#cross-references MUID:89165862
#accession A32300
#status not compared with conceptual translation
#molecule_type mRNA
#residues 1-99 #label FUR
REFERENCE A32396
#authors Robinson, E.A.; Yoshimura, T.; Leonard, E.J.; Tanaka, S.; Griffin, P.R.; Shabanowitz, J.; Hunt, D.F.; Appella, E.
#journal Proc. Natl. Acad. Sci. U.S.A. (1989) 86:1850-1854
#title Complete amino acid sequence of a human monocyte chemoattractant, a putative mediator of cellular immune reactions.
#cross-references MUID:89184525
#accession A32396
#molecule_type protein
#residues 'X', 25-99 #label ROB
REFERENCE A34561
#authors Decock, B.; Conings, R.; Lenaerts, J.P.; Billiau, A.; Van Damme, J.
#journal Biochem. Biophys. Res. Commun. (1990) 167:904-909
#title Identification of the monocyte chemotactic protein from human osteosarcoma cells and monocytes: detection of a novel N-terminally processed form.
#cross-references MUID:90211336
#accession A34561
#molecule_type protein
#residues 29-33, 'XX', 36-52; 82-92 #label DEC
REFERENCE I57488
#authors Li, Y.S.; Shyy, Y.J.; Wright, J.G.; Valente, A.J.; Cornhill, J.F.; Kolattukudy, P.E.
#journal Mol. Cell. Biochem. (1993) 126:61-68
#title The expression of monocyte chemotactic protein (MCP-1) in human vascular endothelium in vitro and in vivo.
#cross-references MUID:94150478
#accession I57488
#status translated from GB/EMBL/DBJ
#molecule_type mRNA

```

Sat Feb 5 12:04:46 2000

```

#residues 1-99 #label L1Y
#cross-references GB:S69738; NID:g545464; PID:g545465
JC1096
#authors
#journal
#title
  chemoattractant protein-1 (MCP-1) gene.
#accession JC1096
#molecule_type mRNA
#residues 24-28,'O',30-99 #label YEQ
GENETICS
#gene GDB:SCVA2
#map_position 17q11.2-17q12
#cross-references GDB:125279; OMIM:158105
CLASSIFICATION #superfamily macrophage inflammatory protein
KEYWORDS cytokine; glycoprotein; inflammation; pyroglutamic acid
FEATURE
1-23 #domain signal sequence #status predicted #label SIG\
24-99 #product monocyte chemoattractant protein 1 #status
29-99 #experimental #label MAT\
24 #product monocyte chemoattractant protein 1, short form
24 #status experimental #label MAT2\
37 #modified site pyrrolidone carboxylic acid (Gln) (in
  mature form) #status experimental\
#binding_site carbohydrate (Asn) (covalent) #status
  predicted
SUMMARY #length 99 #molecular-weight 11025 #checksum 7984
Query Match 84.0%; Score 84; DB 2; Length 99;
Best Local Similarity 75.0%; Pred. No. 1.20e-04;
Matches 9; Conservative 3; Mismatches 0; Indels 0; Gaps 0;
Db 73 EICADPKQKWQ 84
1 EICADPKRWVR 12
1 EICADPKRWVR 12
1 EICADPKRWVR 12
RESULT 4
ENTRY #type complete
TITLE monocyte chemoattractant protein-1 precursor - pig
ORGANISM #formal_name Sus scrofa domestica #common_name domestic pig
DATE 30-Sep-1993 #sequence_revision 20-Aug-1994 #text_change
17-Mar-1999
ACCESSIONS JC2136; S57498
REFERENCE #authors Hosang, K.; Knoke, I.; Klaudiny, J.; Wenpe, F.; Wuttke, W.;
  Scheit, K.H.
#journal Biochem. Biophys. Res. Commun. (1994) 199:962-968
#title Porcine luteal cells express monocyte chemoattractant
  protein-1 (MCP-1): Analysis by polymerase chain reaction
  and cDNA cloning.
#cross-references MUID:94183284
#accession JC2136
#molecule_type mRNA
#residues 1-99 #label HOS
REFERENCE S57497
#authors Zach, O.
#submission Submitted to the EMBL Data Library, July 1994
#accession S57498
#status preliminary
#molecule_type mRNA
#residues 1-99 #label ZAC
#cross-references EMBL:X79416; NID:g872312; PID:g872313
CLASSIFICATION #superfamily macrophage inflammatory protein
KEYWORDS glycoprotein
FEATURE
1-23 #domain signal sequence #status predicted #label SIG\
24-99 #product monocyte chemoattractant protein-1 #status
  predicted #label MAT\
94 #binding_site carbohydrate (Asn) (covalent) #status
  predicted
SUMMARY #length 99 #molecular-weight 10976 #checksum 9768
Query Match 83.0%; Score 83; DB 2; Length 99;
Best Local Similarity 66.7%; Pred. No. 1.89e-04;
Matches 8; Conservative 4; Mismatches 0; Indels 0; Gaps 0;
Db 73 EICADPKQKWQ 84
1 EICADPKRWVR 12
1 EICADPKRWVR 12
1 EICADPKRWVR 12
RESULT 5
ENTRY #type complete
TITLE monocyte chemoattractant protein-1 - bovine
ORGANISM #formal_name Bos primigenius indicus #common_name zebu cattle
DATE 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change
03-May-1996
ACCESSIONS JC2336
REFERENCE #authors Wempe, F.; Kuhlmann, J.K.; Scheit, K.H.
#journal Biochem. Biophys. Res. Commun. (1994) 202:1272-1279
#title Characterization of the bovine monocyte chemoattractant
  protein-1 gene.
#cross-references MUID:94338337
#accession JC2336
#molecule_type protein
#residues 1-99 #label WEM
GENETICS
#gene MCP-1
#introns 26/1; 65/2
#superfamily macrophage inflammatory protein
CLASSIFICATION #length 99 #molecular-weight 11114 #checksum 9401
SUMMARY
Query Match 79.0%; Score 79; DB 2; Length 99;
Best Local Similarity 66.7%; Pred. No. 1.13e-03;
Matches 8; Conservative 4; Mismatches 0; Indels 0; Gaps 0;
Db 73 EICADPKQKWQ 84
1 EICADPKRWVR 12
1 EICADPKRWVR 12
1 EICADPKRWVR 12
RESULT 6
ENTRY #type complete
TITLE monocyte chemoattractant protein 1 precursor - bovine
ORGANISM #formal_name Bos primigenius taurus #common_name cattle
DATE 03-Aug-1992 #sequence_revision 03-Aug-1992 #text_change
31-Oct-1997
ACCESSIONS A39296; B39296
REFERENCE #authors Wempe, F.; Henschen, A.; Scheit, K.H.
#journal DNA Cell Biol. (1991) 10:671-679
#title Gene expression and cDNA cloning identified a major basic
  protein constituent of bovine seminal plasma as bovine
  monocyte chemoattractant protein-1 (MCP-1).
#cross-references MUID:92096117
#accession A39296
#molecule_type mRNA
#residues 1-99 #label WEM
#cross-references GB:M84602; GB:M85264; NID:g163394; PID:g163395
#accession B39296
#molecule_type protein
#residues 50-68,'X',70-74,'X',76 #label WE2
#experimental_source seminal vesicle
#superfamily macrophage inflammatory protein
CLASSIFICATION #glycoprotein
KEYWORDS
FEATURE
1-23 #domain signal sequence #status predicted #label SIG\
24-99 #product monocyte chemoattractant protein 1 #status
  predicted #label MAT\
94 #binding_site carbohydrate (Asn) (covalent) #status
  predicted
SUMMARY #length 99 #molecular-weight 11114 #checksum 9401

```

```

Query Match      79.0%; Score 79; DB 2; Length 99;
Best Local Similarity 66.7%; Pred. No. 1.13e-03;
Matches      8; Conservative 4; Mismatches 0; Indels 0; Gaps 0;

Db 73 ELCADPKQKWQ 84
I:|||||:|:
QY 1 EICADPKRWVR 12

RESULT 7
ENTRY 152322 #type complete
TITLE macrophage inflammatory protein-1alpha - rat
ORGANISM #formal_name Rattus norvegicus #common_name Norway rat
DATE 29-May-1998 #sequence_revision 29-May-1998 #text_change
02-Jul-1998
ACCESSIONS 152322
REFERENCE 152322
#authors Shi, M.M.; Godleski, J.J.; Paulauskis, J.D.
#journal Biochem. Biophys. Res. Commun. (1995) 211:289-295
#title Molecular cloning and posttranscriptional regulation of
macrophage inflammatory protein-1 alpha in alveolar
macrophages.
#cross-references MUID:95298037
#accession 152322
##status preliminary; translated from GB/EMBL/DBDJ
##molecule_type mRNA
##residues 1-92 ##label RES
##cross-references EMBL:U2414; NID:G790632; PID:G790633
CLASSIFICATION #superfamily macrophage inflammatory protein
SUMMARY #length 92 #molecular-weight 10335 #checksum 3184

Query Match      78.0%; Score 78; DB 2; Length 92;
Best Local Similarity 75.0%; Pred. No. 1.76e-03;
Matches      9; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 71 QICADPKETWVQ 82
I:|||||:|:
QY 1 EICADPKRWVR 12

RESULT 8
ENTRY JN0841 #type complete
TITLE interleukin-8 - dog
ORGANISM #formal_name Canis lupus familiaris #common_name dog
DATE 19-May-1994 #sequence_revision 19-May-1994 #text_change
12-Apr-1995
ACCESSIONS JN0841
REFERENCE JN0841
#authors Ishikawa, J.; Suzuki, S.; Hotta, K.; Hirota, Y.; Mizuno, S.;
#journal Gene (1993) 131:305-306
#title Cloning of a canine gene homologous to the human
interleukin-8-encoding gene.
#cross-references MUID:94010328
#accession JN0841
##molecule_type DNA
##residues 1-95 ##label ISH
COMMENT This protein is a polymorphonuclear leukocytes chemotactic factor
and is involved in the host defense function.
GENETICS
#introns 22/1; 67/2
CLASSIFICATION #superfamily beta-thromboglobulin
SUMMARY #length 95 #molecular-weight 10611 #checksum 3157

Query Match      78.0%; Score 78; DB 2; Length 95;
Best Local Similarity 66.7%; Pred. No. 1.76e-03;
Matches      8; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

Db 75 EVCLDPKQKWQ 86
I:|||||:|:
QY 1 EICADPKRWVR 12

Query Match      79.0%; Score 79; DB 2; Length 99;
Best Local Similarity 66.7%; Pred. No. 1.13e-03;
Matches      8; Conservative 4; Mismatches 0; Indels 0; Gaps 0;

Db 73 ELCADPKQKWQ 84
I:|||||:|:
QY 1 EICADPKRWVR 12

RESULT 9
ENTRY 146997 #type complete
TITLE interleukin-8 - sheep
ORGANISM #formal_name Ovis sp. #common_name sheep
DATE 21-Feb-1997 #sequence_revision 21-Feb-1997 #text_change
09-May-1997
ACCESSIONS 146997
REFERENCE 146997
#authors Seow, H.F.; Yoshimura, T.; Wood, P.R.; Colditz, I.G.
#journal Immunol. Cell Biol. (1994) 72:398-405
#title Cloning, sequencing, expression and inflammatory activity in
skin of ovine interleukin-8.
#cross-references MUID:95137691
#accession 146997
##status preliminary; translated from GB/EMBL/DBDJ
##molecule_type mRNA
##residues 1-101 ##label SEO
##cross-references GB:S74436; NID:G786590; PID:G786591
GENETICS
#gene OIL-8
CLASSIFICATION #superfamily beta-thromboglobulin
SUMMARY #length 101 #molecular-weight 11292 #checksum 294

Query Match      78.0%; Score 78; DB 2; Length 101;
Best Local Similarity 66.7%; Pred. No. 1.76e-03;
Matches      8; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

Db 75 EVCLDPKQKWQ 86
I:|||||:|:
QY 1 EICADPKRWVR 12

RESULT 10
ENTRY S42496 #type complete
TITLE interleukin 8 - sheep
ORGANISM #formal_name Ovis orientalis aries, Ovis ammon aries
DATE 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change
08-Sep-1997
ACCESSIONS S42496
REFERENCE S42496
#authors Legastelois, I.; Greenland, T.; Arnaud, P.; Mornex, J.F.;
#submission Cordier, G.
#description submitted to the EMBL Data Library, March 1994
#accession Nucleotide sequence of ovine interleukin 8 cDNA using
polymerase chain reaction.
##status preliminary
##molecule_type mRNA
##residues 1-101 ##label LEG
##cross-references EMBL:X78306; NID:G463253; PID:G463254
CLASSIFICATION #superfamily beta-thromboglobulin
SUMMARY #length 101 #molecular-weight 11292 #checksum 294

Query Match      78.0%; Score 78; DB 2; Length 101;
Best Local Similarity 66.7%; Pred. No. 1.76e-03;
Matches      8; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

Db 75 EVCLDPKQKWQ 86
I:|||||:|:
QY 1 EICADPKRWVR 12

RESULT 11
ENTRY A44253 #type complete
TITLE alveolar macrophage chemotactic factor-I (AMCF-I)
ORGANISM #formal_name Sus scrofa domestica #common_name domestic pig
DATE 30-Apr-1993 #sequence_revision 18-Nov-1994 #text_change
23-Feb-1996
ACCESSIONS A44253
REFERENCE A44253
#authors Goodman, R.B.; Foster, D.C.; Mathewes, S.L.; Osborn, S.G.;

```

```
##journal      Kuijper, J.L.; Forstrom, J.W.; Martin, T.R.
##title        Biochemistry (1992) 31:10483-10490
##cross-references GB:M86923; NID:g164520; PID:g164521
##description  Molecular cloning of porcine alveolar macrophage-derived
neutrophil chemotactic factors I and II: identification of
porcine IL-8 and another intercrine-alpha protein.
##cross-references MUID:930411741
##accession    A44253
##status       preliminary
##molecule_type mRNA: protein
##residues     1-103 #label GOO
##experimental_source alveolar macrophage
##note         sequence extracted from NCBI backbone (NCBIN:117415,
NCBIP:117416)
CLASSIFICATION #superfamily beta-thromboglobulin
SUMMARY        #length 103 #molecular-weight 11677 #checksum 8904
Query Match    78.0%; Score 78; DB 2; Length 103;
Best Local Similarity 66.7%; Pred. No. 1.76e-03;
Matches 8; Conservative 3; Mismatches 1; Indels 0; Gaps 0;
Db 75 EVCLDPKRWVQ 86
I:| | | | | | | |
QY 1 EICADPKRWVR 12
RESULT 12
ENTRY      A53096 #type complete
TITLE      interleukin-8 precursor - pig
ORGANISM   #formal_name Sus scrofa domestica #common_name domestic pig
DATE       02-Jun-1995 #sequence_revision 02-Jun-1995 #text_change
08-Sep-1997
ACCESSIONS A53096
REFERENCE   Lin, G.; Pearson, A.E.; Scamurra, R.W.; Zhou, Y.; Baarsch,
M.J.; Weiss, D.J.; Murtaugh, M.P.
#journal    J. Biol. Chem. (1994) 269:77-85
#title      Regulation of interleukin-8 expression in porcine alveolar
macrophages by bacterial lipopolysaccharide.
#cross-references MUID:94103307
#accession   A53096
#status      preliminary
##molecule_type mRNA
##residues   1-103 #label LIN
##cross-references GB:M86923; NID:g164520; PID:g164521
CLASSIFICATION #superfamily beta-thromboglobulin
SUMMARY        #length 103 #molecular-weight 11633 #checksum 8835
Query Match    78.0%; Score 78; DB 2; Length 103;
Best Local Similarity 66.7%; Pred. No. 1.76e-03;
Matches 8; Conservative 3; Mismatches 1; Indels 0; Gaps 0;
Db 75 EVCLDPKRWVQ 86
I:| | | | | | | |
QY 1 EICADPKRWVR 12
RESULT 13
ENTRY      I46857 #type complete
TITLE      monocyte chemoattractant protein-1 - rabbit
ORGANISM   #formal_name Oryctolagus cuniculus #common_name domestic
rabbit
DATE       14-Feb-1997 #sequence_revision 14-Feb-1997 #text_change
09-May-1997
ACCESSIONS I46857
REFERENCE   Yoshimura, T.; Yuhki, N.
#authors    J. Immunol. (1991) 146:3483-3488
#journal     Neutrophil attractant/activation protein-1 and monocyte
chemoattractant protein-1 in rabbit: cDNA cloning and their
expression in spleen cells.
#cross-references MUID:91225489
#accession   I46857
#status      preliminary; translated from GB/EMBL/DBJ
```

```
##molecule_type mRNA
##residues     1-125 #label YOS
##cross-references GB:M57440; NID:g165469; PID:g165470
CLASSIFICATION #superfamily macrophage inflammatory protein
SUMMARY        #length 125 #molecular-weight 13776 #checksum 4498
Query Match    78.0%; Score 78; DB 2; Length 125;
Best Local Similarity 72.7%; Pred. No. 1.76e-03;
Matches 8; Conservative 3; Mismatches 0; Indels 0; Gaps 0;
Db 74 ICADPKRWVQ 84
I:| | | | | | | |
QY 2 ICADPKRWVR 12
RESULT 14
ENTRY      A54678 #type complete
TITLE      monocyte chemoattractant protein 3 precursor - human
ORGANISM   #formal_name Homo sapiens #common_name man
DATE       28-Oct-1994 #sequence_revision 28-Oct-1994 #text_change
17-Mar-1999
ACCESSIONS A54678; JCI478; S32222
REFERENCE   Opendakker, G.; Fiten, P.; Nys, G.; Froyen, G.; Van Roy, N.;
Speleman, F.; Laureys, G.; Van Damme, J.
#journal     Genomics (1994) 21:403-408
#title       The human MCP-3 gene (SCYA7): cloning, sequence analysis, and
assignment to the C-C chemokine gene cluster on chromosome
17q11.2-q12.
#cross-references MUID:94375065
#accession   A54678
##molecule_type DNA
##residues   1-109 #label OPD
##cross-references GB:X72309
REFERENCE     JCI478
#authors      Opendakker, G.; Froyen, G.; Fiten, P.; Proost, P.; Van Damme,
J.
#journal      Biochem. Biophys. Res. Commun. (1993) 191:535-542
#title        Human monocyte chemoattractant protein-3 (MCP-3): Molecular
cloning of the cDNA and comparison with other chemokines.
#cross-references MUID:93213290
#accession   JCI478
##molecule_type mRNA
##residues   1-109 #label OP2
REFERENCE     S32222
#authors      Minty, A.; Chalon, P.; Guillemot, J.C.; Kaghad, M.; Liauzun,
P.; Magazin, M.; Miloux, B.; Minty, C.; Ferrara, P.; Vita,
N.; Lupker, J.; Shire, D.; Ferrara, P.; Caput, D.
#submission   submitted to the EMBL Data Library, March 1993
#description   Molecular cloning of MCP-3: a human monocyte-derived monocyte
chemoattractant protein.
#accession   S32222
##molecule_type mRNA
##residues   1-109 #label MIN
##cross-references EMBL:X71087; NID:g288396; PID:g288397
COMMENT       This protein induces proteinase secretion and chemotaxis by
macrophages and monocytes.
GENETICS
#gene        GDB:SCYA7; SCYA6; MCP-3
#cross-references GDB:138473; OMIM:158106
#map_position 17q11-17q12
#introns     36/1; 75/2
CLASSIFICATION #superfamily macrophage inflammatory protein
KEYWORDS      cytokine; glycoprotein; inflammation
FEATURE
1-33
34-109
39
#domain signal sequence #status predicted #label SIG\
#product monocyte chemoattractant protein 3 #status
predicted #label MAT\
#binding site carbohydrate (Asn) (covalent) #status
predicted
#length 109 #molecular-weight 12356 #checksum 1535
SUMMARY
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Query Match 77.0%; Score 77; DB 2; Length 109;
 Best Local Similarity 66.7%; Pred. No. 2.74e-03;
 Matches 8; Conservative 3; Mismatches 1; Indels 0; Gaps 0;
 Db 83 EICADPTOKWVQ 94
 ||||| :||:
 QY 1 EICADPKRWVR 12

RESULT 15
 ENTRY JC2417 #type complete
 TITLE monocyte chemoattractant protein-2 precursor - pig
 ORGANISM #formal_name Sus scrofa domestica #common_name domestic pig
 DATE 24-Feb-1995 #sequence_revision 24-Feb-1995 #text_change
 17-Mar-1999
 JC2417
 JC2417
 #authors Hosang, K.; Knoke, I.; Klaudiny, J.; Wempe, F.; Wuttke, W.;
 Scheit, K.H.
 #journal Biochem. Biophys. Res. Commun. (1994) 205:148-153
 #title Porcine luteal cells express monocyte chemoattractant
 protein-2 (MCP-2): Analysis by cDNA cloning and northern
 analysis.
 #cross-references MUID:95091716
 #accession JC2417
 #molecule_type mRNA
 #residues 1-99 #label HOS
 #experimental_source corpus luteum
 CLASSIFICATION #superfamily macrophage inflammatory protein
 FEATURE
 1-23 #domain signal sequence #status predicted #label SIG\
 24-99 #product monocyte chemoattractant protein-2 #status
 predicted #label MAT
 SUMMARY #length 99 #molecular_weight 10903 #checksum 7556

Query Match 75.0%; Score 75; DB 2; Length 99;
 Best Local Similarity 58.3%; Pred. No. 6.56e-03;
 Matches 7; Conservative 4; Mismatches 1; Indels 0; Gaps 0;
 Db 73 EVCADPOQKWVQ 84
 ||||| :||:
 QY 1 EICADPKRWVR 12

Search completed: Fri Feb 4 17:50:54 2000
 Job time : 25 secs.

W P S R L H (TM)

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MPSrch_pp protein - protein database search, using Smith-Waterman algorithm
Run on: Fri Feb 4 17:49:54 2000; MasPar time 3.50 Seconds
72.823 Million cell updates/sec
Tabular output not generated.

Title: >US-09-150-813-67
Description: (1-12) from US09150813.pep
Perfect Score: 100
Sequence: 1 EICADPKRWVR 12

Scoring table: PAM 150
Gap 15

Searched: 170751 seqs, 21266608 residues

Post-processing: Minimum Match 0%
Listing first 45 summaries

Database: a-geneseq35
1:part1 2:part2 3:part3 4:part4 5:part5 6:part6 7:part7
8:part8 9:part9 10:part10 11:part11 12:part12 13:part13
14:part14 15:part15 16:part16 17:part17 18:part18
19:part19 20:part20 21:part21 22:part22 23:part23
24:part24 25:part25 26:part26 27:part27 28:part28
29:part29 30:part30 31:part31 32:part32 33:part33
34:part34 35:part35 36:part36 37:part37 38:part38
39:part39

Statistics: Mean 19.095; Variance 70.039; scale 0.273

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match % | Length | ID | Description | Pred. No. |
|------------|-------|---------------|--------|----|------------------------|-----------|
| 1 | 98 | 98.0 | 72 | 13 | Chemoattractant MCP-2 | 1.53e-02 |
| 2 | 98 | 98.0 | 109 | 26 | Human beta-chemokine | 1.53e-02 |
| 3 | 98 | 98.0 | 109 | 29 | Human MC propeptidein. | 1.53e-02 |
| 4 | 90 | 90.0 | 104 | 31 | Murine monocyte chemo | 9.60e-02 |
| 5 | 90 | 90.0 | 104 | 31 | Mouse monocyte chemot | 9.60e-02 |
| 6 | 87 | 87.0 | 71 | 26 | Dro13+ chemokine beta | 1.90e-01 |
| 7 | 87 | 87.0 | 75 | 31 | Chemokine MCP-4 prote | 1.90e-01 |
| 8 | 87 | 87.0 | 75 | 26 | Bac 3 chemokine betat | 1.90e-01 |
| 9 | 87 | 87.0 | 77 | 26 | Bac 2 chemokine betat | 1.90e-01 |
| 10 | 87 | 87.0 | 79 | 26 | Dro11/2 chemokine bet | 1.90e-01 |
| 11 | 87 | 87.0 | 82 | 26 | Bac 1 chemokine betat | 1.90e-01 |
| 12 | 87 | 87.0 | 82 | 24 | Stem cell mobilising | 1.90e-01 |
| 13 | 87 | 87.0 | 98 | 26 | Human chemokine betat | 1.90e-01 |
| 14 | 87 | 87.0 | 98 | 31 | Human monocyte chemo | 1.90e-01 |
| 15 | 87 | 87.0 | 98 | 28 | Monocyte chemotactic | 1.90e-01 |
| 16 | 87 | 87.0 | 98 | 17 | Human chemokine beta- | 1.90e-01 |

| | | | | | | | |
|----|----|------|----|----|--------|-----------------------|----------|
| 17 | 84 | 84.0 | 66 | 24 | W13598 | Monocyte chemoattract | 3.74e-01 |
| 18 | 84 | 84.0 | 67 | 24 | W13599 | Monocyte chemoattract | 3.74e-01 |
| 19 | 84 | 84.0 | 68 | 24 | W13597 | Monocyte chemoattract | 3.74e-01 |
| 20 | 84 | 84.0 | 69 | 24 | W13596 | Monocyte chemoattract | 3.74e-01 |
| 21 | 84 | 84.0 | 69 | 14 | R87678 | des(2-8) MCP-1 | 3.74e-01 |
| 22 | 84 | 84.0 | 76 | 30 | W40175 | Macrophage chemoattra | 3.74e-01 |
| 23 | 84 | 84.0 | 76 | 20 | W09374 | Monocyte chemotactic | 3.74e-01 |
| 24 | 84 | 84.0 | 76 | 10 | R53398 | Sense MCP-1. | 3.74e-01 |
| 25 | 84 | 84.0 | 76 | 5 | R28660 | MCP. | 3.74e-01 |
| 26 | 84 | 84.0 | 76 | 14 | R87677 | (3-Ala) MCP-1. | 3.74e-01 |
| 27 | 84 | 84.0 | 76 | 14 | R87680 | Monocyte chemotactic | 3.74e-01 |
| 28 | 84 | 84.0 | 76 | 14 | R87675 | (28-Asp) MCP-1. | 3.74e-01 |
| 29 | 84 | 84.0 | 76 | 14 | R87676 | (24-Arg) MCP-1. | 3.74e-01 |
| 30 | 84 | 84.0 | 76 | 21 | W11131 | Mature human monocyte | 3.74e-01 |
| 31 | 84 | 84.0 | 76 | 1 | P90292 | Peptide from human g1 | 3.74e-01 |
| 32 | 84 | 84.0 | 77 | 15 | R86859 | Mature MCP-1. | 3.74e-01 |
| 33 | 84 | 84.0 | 99 | 30 | W40174 | Macrophage chemoattra | 3.74e-01 |
| 34 | 84 | 84.0 | 99 | 2 | P95387 | Human monocyte chemo- | 3.74e-01 |
| 35 | 84 | 84.0 | 99 | 5 | R28663 | MCP. | 3.74e-01 |
| 36 | 84 | 84.0 | 99 | 13 | R70800 | Chemoattractant prote | 3.74e-01 |
| 37 | 84 | 84.0 | 99 | 14 | R73914 | Human monocyte chemoa | 3.74e-01 |
| 38 | 80 | 80.0 | 99 | 2 | R06398 | Human MCF precursor. | 9.15e-01 |
| 39 | 79 | 79.0 | 76 | 5 | R26580 | Sequence of bovine p6 | 1.14e+00 |
| 40 | 79 | 79.0 | 82 | 29 | W44721 | Amino acid sequence o | 1.14e+00 |
| 41 | 79 | 79.0 | 97 | 21 | W00667 | Pancreas expressed ch | 1.14e+00 |
| 42 | 79 | 79.0 | 97 | 23 | W10099 | Human eotaxin. | 1.14e+00 |
| 43 | 79 | 79.0 | 97 | 24 | W14990 | Human eosinocyte CC t | 1.14e+00 |
| 44 | 79 | 79.0 | 99 | 5 | R26581 | Sequence of p6 precu | 1.14e+00 |
| 45 | 77 | 77.0 | 67 | 14 | R73915 | Human monocyte chemoa | 1.78e+00 |

ALIGNMENTS

RESULT 1
ID R70804 standard; Protein; 72 AA.
AC R70804;
DT 29-AUG-1995 (first entry)
DE Chemoattractant MCP-2
KW Chemoattractant; MCP-2; heparanase; heparin; heparan sulfate;
OS arthritis; restenosis; cancer; wound healing.
OS Homo sapiens.
PN W09504158-A.
PD 09-FEB-1995.
PF 26-JUL-1994; U08207.
PR 29-JUL-1993; US-099866.
PR 13-OCT-1993; US-136117.
PA (UPJO) UPJOHN CO.
PI Hoogwerf AJ, Ledbetter SR;
DR WPI: 95-082239/11.
PT Screening for cpds. with anti-heparanase activity - by detecting
PT inhibition of heparin or heparan sulphate degradation,
PT potentially useful for treating arthritis, restenosis, cancer.
PS Claim 13; Page 53; 60pp; English.
CC Purified heparanases, prepared under reducing conditions and
CC activated with transglutaminase, are given in R70786-804. Most
CC are prepared by reverse transcription of mRNA from activated human
CC leukocytes, then cloning of the cDNA into pVIL1392 baculovirus
CC vector, and expression in Sf9 cells in the presence of reduced
CC glutathione and dithiothreitol.
SQ Sequence 72 AA;

Query Match 98.0%; Score 98; DB 13; Length 72;
Best Local Similarity 91.7%; Pred. No. 1.53e-02;
Matches 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Db 46 evcadpkerwvr 57
Qy 1 EICADPKRWVR 12
1:|||||

RESULT 2
ID W26655 standard; Protein; 109 AA.
AC W26655;

DE 16-FEB-1998 (first entry)
 DE Human beta-chemokine H1305 (MCP-2).
 KW H1305; MCP-2; chemokine; human; MCP-2.
 KW virus infection; HIV; therapy; wound healing; tumour; antibody.
 OS Homo sapiens.
 PN WO9725427-A1.
 PD 17-JUL-1997.
 PF 10-JAN-1997: U00379.
 PR 12-JAN-1996: US-566395.
 PA (GENY) GENETICS INST INC.
 PI Lavallie ER, McCoy JM, Racie LA;
 DR WPI: 97-372866/34.
 DR N-PSDB; T91023.
 PT New human beta-chemokine, H1305 and corresponding DNA - used in the
 PT treatment of viral infection, e.g. HIV, and in wound healing
 PS Claim 1: Page 12-13; 21pp; English.
 CC This protein comprises human beta-chemokine H1305, also known as
 CC MCP-2. Its sequence was deduced from a claimed cDNA clone (see
 CC T91023) isolated from a human peripheral blood mononuclear cell
 CC cDNA library. Also claimed are: (1) a host cell, preferably
 CC mammalian, transformed with a H1306 polynucleotide operably linked
 CC to an expression control sequence; (2) a recombinantly produced
 CC H1305 protein; and (3) a composition comprising an antibody which
 CC specifically reacts with the H1305 protein. The H1305 protein
 CC may be used in a composition for the treatment of a mammalian
 CC subject (claimed). It is thought to have chemokine activities and
 CC may therefore have an effect on chemotaxis or migration of blood
 CC cells. It may be useful for inhibiting viral replication,
 CC including replication of HIV, and may also be used for treatment of
 CC wounds and to raise monoclonal and polyclonal antibodies which
 CC specifically react with H1305. Such antibodies may be used for
 CC therapy of certain tumours as they are capable of blocking the
 CC ligand binding of the H1305 protein or may promote clearance of
 CC the protein from the patient.
 SQ Sequence 109 AA;

Query Match 98.08; Score 98; DB 26; Length 109;
 Best Local Similarity 91.7%; Pred. No. 1.53e-02;
 Matches 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Db 83 evcadpkewvr 94
 :|||||
 QY 1 EICADPKERWVR 12

RESULT 3
 ID W42072 standard; Protein; 109 AA.
 AC W42072;
 DE 09-JUN-1998 (first entry)
 DE Human MC proprotein.
 KW Human monocyte chemotactic proprotein; MCP-2; Incyte clone; allergy;
 KW macrophage; diagnostic assay; body fluid; lung; biopsy;
 KW autoimmune disease; AIDS; asthma; rheumatoid arthritis; NIDDM;
 KW breast cancer; bladder.
 OS Homo sapiens.
 PN WO9802459-A1.
 PD 22-JAN-1998.
 PF 15-JUL-1997; U12349.
 PR 15-JUL-1996: US-683655.
 PA (INCY) INCYTE PHARM INC.
 PI Au-Young J, Coleman R, Hillman JL;
 DR WPI: 98-110529/10.
 DR N-PSDB; V09218.
 PT New human monocyte chemotactic proprotein - has homology to CC
 PT chemokine(s) useful for identifying agent for treating auto-immune
 PT diseases or allergic responses
 PS Claim 1: Pages 38-39; 53pp; English.
 CC The is a human monocyte chemotactic proprotein sequence. Its cDNA was
 CC first identified in Incyte clone 965517 from a breast cDNA library.
 CC Antisense nucleotides can be used to control human MCP-2 expression.
 CC especially where it may lead to inappropriate monocyte or macrophage
 CC activity causing damage associated with allergic responses to organs
 CC such as the lungs. Antisense nucleotides and MCP-2 cDNA may be used

CC in diagnostic assays of body fluids or biopsied tissues to detect
 CC expression levels of MCP-2. MCP-2 cDNA may also be useful for
 CC treatment of disorders such as asthma, rheumatoid arthritis, NIDDM
 CC or cancer of the breast or bladder. Human MCP-2 protein can be used to
 CC identify agonists, antagonists or inhibitors to modulate the activity of
 CC MCP-2 in allergic responses or autoimmune diseases such as AIDS.
 SQ Sequence 109 AA;

Query Match 98.0%; Score 98; DB 29; Length 109;
 Best Local Similarity 91.7%; Pred. No. 1.53e-02;
 Matches 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Db 83 evcadpkewvr 94
 :|||||
 QY 1 EICADPKERWVR 12

RESULT 4
 ID W56088 standard; Protein; 104 AA.
 AC W56088;
 DE 17-AUG-1998 (first entry)
 DE Murine monocyte chemoattractant protein 5.
 KW Murine; mouse; monocyte chemoattractant protein; MCP-4; MCP-5; chemokine;
 KW immune response; cancer; AIDS; malaria; parasitic infection.
 OS Mus spretus.
 PN WO9814573-A1.
 PD 09-APR-1998.
 PF 30-SEP-1997; U17900.
 PR 30-SEP-1996; US-027128.
 PA (GHEO) GEN HOSPITAL CORP.
 PI Garcia-Zepeda E, Luster AD, Sarafi M;
 DR WPI: 98-240080/21.
 DR N-PSDB; V28592.
 PT Monocyte chemoattractant proteins, MCP-4 and MCP-3 - used to develop
 PT products for treating e.g. cancers, infections, asthma, cystic
 PT fibrosis, rhinitis, atherosclerosis or inflammatory bowel disease
 PS Claim 25; Page 54; 106pp; English.
 CC The present sequence represents murine monocyte chemoattractant protein 5
 CC (MCP-5). The MCP-4 and MCP-5 have activity in stimulating chemotactic
 CC activity. The proteins can be used for treating cancers, e.g. a
 CC lymphoma (e.g. Hodgkin's lymphoma), a plasmacytoma, a melanoma, a
 CC sarcoma, a tumour within the lung or gastrointestinal tract, or
 CC infectious disease such as AIDS or malaria. Antagonists to the proteins
 CC can be used for treating e.g. asthma, chronic obstructive pulmonary
 CC disease, cystic fibrosis, sinusitis, rhinitis, atherosclerosis,
 CC glomerulonephritis, multiple sclerosis, inflammatory bowel disease,
 CC arthritis or adult respiratory distress syndrome. Infections such as
 CC parasitic infections may also be treated with a molecule that inhibits
 CC MCP-4 or MCP-5 expression.
 SQ Sequence 104 AA;

Query Match 90.0%; Score 90; DB 31; Length 104;
 Best Local Similarity 83.3%; Pred. No. 9.60e-02;
 Matches 10; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Db 72 eicadpkewvr 83
 :|||||
 QY 1 EICADPKERWVR 12

RESULT 5
 ID W57322 standard; Protein; 104 AA.
 AC W57322;
 DE 11-AUG-1998 (first entry)
 DE Mouse monocyte chemotactic protein 5.
 KW Mouse; murine; monocyte chemotactic protein 5; MCP-5; diagnosis;
 KW immune system disorder; infection; inflammation; allergy; tumour;
 KW cardiovascular disease.
 OS Mus sp.
 PN WO9812324-A1.
 PD 26-MAR-1998.
 PF 11-SEP-1997; U16105.
 PR 08-NOV-1996; US-744419.

Sat Feb 5 12:04:44 2000

CC treat rheumatoid arthritis, autoimmune, chronic inflammatory or
 CC infectious diseases, allergies, prostaglandin dependent fever and
 CC bone marrow failure, silicosis, sarcoidosis, hyper-eosinophilic
 CC syndrome, lung inflammation and atherosclerosis. Ck betalo cDNA can
 CC be used to isolate genes encoding similar peptides, in gene therapy
 CC and for chromosome identification.
 CC Sequence 71 AA;

Query Match 87.0%; Score 87; DB 26; Length 71;
 Best Local Similarity 83.3%; Pred. No. 1.90e-01;
 Matches 10; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Db 45 eicadpkekwwq 56

QY 1 EICADPKERWVR 12

RESULT 7
 ID W56690 standard; Protein; 75 AA.

AC W56690;
 DT 23-JUL-1998 (first entry)
 DE Chemokine MCP-4 protein sequence.
 KW MCP-4; MCP-4 receptor; antagonist; agonist; inflammatory disease;
 KW viral; bacterial; parasite; infection; allergic reaction;
 KW asthmatic; atherosclerosis; arthritis; chemokine.
 OS Homo sapiens.
 PN W09809171-A1.
 PD 05-MAR-1998.
 PF 27-AUG-1997; G023113.
 PR 28-AUG-1996; GB-017923.
 PA (SMIK) SMITHKLINE BEECHAM CORP.
 PA (SMIK) SMITHKLINE BEECHAM PLC.
 PI Bergsma D, Berkhout T, Elshourbagy N, Groot PHE,
 PI White J;
 DR WPI: 98-179584/16.

PT Use of the chemokine MCP-4 receptor - for identifying agonists or
 PT antagonists which can be used for treating e.g. infections, allergic
 PT and asthmatic reactions, atherosclerosis and arthritis
 PS Disclosure; Fig 2; 25pp; English.
 CC This is the chemokine MCP-4 receptor antagonists and agonists. MCP-4
 CC methods for identifying MCP-4 receptor antagonists and agonists. MCP-4
 CC receptor agonists can be identified by contacting a compound with MCP-4
 CC receptor and measuring the change in a functional response or a second
 CC messenger system associated with the receptor. MCP-4 receptor
 CC antagonists can be identified using the MCP-4 receptor in combination
 CC with the chemokine MCP-4 which may be labelled or unlabelled. The MCP-4
 CC receptor is expressed on the surface of a host cell or in a membrane
 CC preparation and is used in the form of the isolated protein. It is
 CC prepared by transfecting a mammalian cell line with an expression vector
 CC comprising a nucleic acid sequence encoding the MCP-4 receptor, and
 CC culturing the cell line in a culture medium. Susceptibility to disease
 CC states associated with abnormal expression of the MCP-4 receptor can be
 CC diagnosed by measuring the level of MCP-4 and/or MCP-3 in a sample taken
 CC from a patient. Neutralising antibodies to the MCP-4 receptor can be
 CC identified using MCP-4, MCP-3, RANTES, MCP-2, MCP-1 or eotaxin. The
 CC agonists and antagonists identified can be used for treating disease
 CC states associated with the MCP-4 receptor, e.g. inflammatory states
 CC arising from viral, bacterial and parasitic infection, allergic and
 CC asthmatic reactions, atherosclerosis and arthritis. The products can also
 CC be used for detection and diagnosis.
 CC Sequence 75 AA;

Query Match 87.0%; Score 87; DB 31; Length 75;
 Best Local Similarity 83.3%; Pred. No. 1.90e-01;
 Matches 10; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Db 49 eicadpkekwwq 60

QY 1 EICADPKERWVR 12

RESULT 8
 ID W22673 standard; Protein; 75 AA.

PR 18-SEP-1996; US-026882.
 PA (BLOO-) CENT BLOOD RES INC.
 PI Gonzalo J, Gutierrez-Ramos J;
 DR WPI: 98-217264/19.
 DR N-PSDB: V30789, V30790.
 DR Monocyte chemotactic protein-5 - used to develop products for
 PT treating e.g. immune system disorders, infections, inflammation,
 PT allergy, cardiovascular disease or tumours
 PT Claim 28; Page 79; 101pp; English.
 CC The present sequence represents monocyte chemotactic protein 5 (MCP-5).
 CC The MCP-5 protein stimulates chemotaxis of eosinophils, monocytes and
 CC lymphocytes, but not neutrophils, and so is likely to be involved with
 CC eosinophil-, monocyte- and/or lymphocyte-mediated inflammations.
 CC Products of the present invention can be used for treating e.g.
 CC bacterial, fungal or parasitic infections of for tumour cell killing,
 CC or for promoting wound healing. The products can also be used for
 CC limiting an unwanted inflammatory response or an allergic response,
 CC e.g. in inflammatory bowel disease, glomerular inflammation, lupus
 CC membranous nephropathy, glomerulo-sclerosis, chronic hepatic
 CC inflammation, fibrotic lung disease, idiopathic pulmonary disease,
 CC adult respiratory distress syndrome, sarcoidosis, pleural effusions
 CC which occur secondary to various diseases, respiratory allergies,
 CC asthma, atherosclerosis, cardiovascular disease, arthritis,
 CC endometriosis, gingival inflammation, inflammatory skin conditions,
 CC delayed-type hypersensitivity responses, or allergic inflammation.
 CC The products can also be used for detection, diagnosis and drug
 CC screening.
 CC Sequence 104 AA;

Query Match 90.0%; Score 90; DB 31; Length 104;
 Best Local Similarity 83.3%; Pred. No. 9.60e-02;
 Matches 10; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Db 72 eicadpkekwwk 83

QY 1 EICADPKERWVR 12

RESULT 6
 ID W22675 standard; Protein; 71 AA.

AC W22675;
 DT 19-MAR-1998 (first entry)
 DE Drol3+ chemokine betalo or monocyte chemotactic protein 4 variant.
 KW Human; chemokine betalo; Ck betalo; treatment; antagonist;
 KW solid tumour; infection; autoimmune disease; asthma; antibody;
 KW fibrotic disease; psoriasis; neurodegenerative disease;
 KW wound healing; haematopoiesis regulation; gene therapy;
 KW chromosome identification; monocyte chemotactic protein 4;
 KW leukaemia; MCP-4; Drol3+ variant.
 OS Homo sapiens.
 PN W09731098-A1.
 PD 28-AUG-1997.
 PR 23-FEB-1996; WO-U02598.
 PR (HUMA-) HUMAN GENOME SCI INC.
 PA Adams M, Alderson R, Applebaum E, Li H, Li Y, Lima SH,
 PI Parmelee D, White J;
 DR WPI: 97-43513/40.

PT Polypeptide encoding chemokine beta 4 and monocyte chemotactic
 PT protein 4 - useful to treat tumours, autoimmune disease, infection,
 PT asthma and fibrosis
 PS Example 11; Fig 5; 83pp; English.
 CC The present sequence is human chemokine betalo (Ck betalo) or
 CC monocyte chemotactic protein 4 (MCP-4) Drol3+ variant, which can
 CC be used to treat patients deficient in Ck betalo, while a Ck betalo
 CC antagonist can be used to reduce excessive levels of Ck betalo. Ck
 CC betalo can be used to treat leukaemia, solid tumours, chronic or
 CC opportunistic infections, autoimmune diseases, asthma, fibrotic
 CC diseases, psoriasis and neurodegenerative diseases. It also
 CC promotes wound healing, regulates haematopoiesis and generates
 CC antibodies. Labelled Ck betalo can be used to identify its cognate
 CC receptor, while cells expressing the receptor can be used to screen
 CC compounds for (ant)agonist activity. The antagonist can be used to

AC W22673;
 DT 19-MAR-1998 (first entry)
 DE Bac 3 chemokine beta10 or monocyte chemotactic protein 4 variant.
 KW Human; chemokine beta10; Ck beta10; treatment; antagonist;
 KW solid tumour; infection; autoimmune disease; asthma; antibody;
 KW fibrotic disease; psoriasis; neurodegenerative disease;
 KW wound healing; haematopoiesis regulation; gene therapy;
 KW chromosome identification; monocyte chemotactic protein 4;
 KW leukaemia; MCP-4; Bac 3 variant.
 OS Homo sapiens.
 PN W09731098-A1.
 PD 28-AUG-1997.
 PF 23-FEB-1996; U02598.
 PR 23-FEB-1996; WO-U02598.
 PA (HUMA-) HUMAN GENOME SCI INC.
 PI Adams M, Alderson R, Applebaum E, Li H, Li Y, Lima SH,
 PI Parmelee D, White J;
 DR WPI: 97-435153/40.
 PT Polypeptide encoding chemokine beta 4 and monocyte chemotactic
 protein 4 - useful to treat tumours, autoimmune disease, infection,
 PT asthma and fibrosis
 PS Example 11; Fig 5; 83pp; English.
 CC The present sequence is human chemokine beta10 (Ck beta10) or
 CC monocyte chemotactic protein 4 (MCP-4) Bac 3 variant, which can be
 CC used to treat patients deficient in Ck beta10, while a Ck beta10
 CC antagonist can be used to reduce excessive levels of Ck beta10. Ck
 CC beta10 can be used to treat leukaemia, solid tumours, chronic or
 CC opportunistic infections, autoimmune diseases, asthma, fibrotic
 CC diseases, psoriasis and neurodegenerative diseases. It also
 CC promotes wound healing, regulates haematopoiesis and generates
 CC antibodies. Labelled Ck beta10 can be used to identify its cognate
 CC receptor, while cells expressing the receptor can be used to screen
 CC compounds for (ant)agonist activity. The antagonist can be used to
 CC treat rheumatoid arthritis, allergies, autoimmune, chronic inflammatory or
 CC infectious diseases, psoriasis, prostaglandin dependent fever and
 CC bone marrow failure, silicosis, sarcoidosis, hyper-eosinophilic
 CC syndrome, lung inflammation and atherosclerosis. Ck beta10 cDNA can
 CC be used to isolate genes encoding similar peptides, in gene therapy
 CC and for chromosome identification.
 SQ Sequence 75 AA;

Query Match 87.0%; Score 87; DB 26; Length 75;
 Best Local Similarity 83.3%; Pred. No. 1.90e-01;
 Matches 10; Conservative 2; Mismatches 0; Indels 0; Gaps 0;
 Db 49 eicadpkpkvqv 60
 QY 1 EICADPKRWR 12
 |||||:|:|:|

RESULT 9
 ID W22672 standard; Protein; 77 AA.
 AC W22672;
 DT 19-MAR-1998 (first entry)
 DE Bac 2 chemokine beta10 or monocyte chemotactic protein 4 variant.
 KW Human; chemokine beta10; Ck beta10; treatment; antagonist;
 KW solid tumour; infection; autoimmune disease; asthma; antibody;
 KW fibrotic disease; psoriasis; neurodegenerative disease;
 KW wound healing; haematopoiesis regulation; gene therapy;
 KW chromosome identification; monocyte chemotactic protein 4;
 KW leukaemia; MCP-4; Bac 2 variant.
 OS Homo sapiens.
 PN W09731098-A1.
 PD 28-AUG-1997.
 PF 23-FEB-1996; WO-U02598.
 PR 23-FEB-1996; WO-U02598.
 PA (HUMA-) HUMAN GENOME SCI INC.
 PI Adams M, Alderson R, Applebaum E, Li H, Li Y, Lima SH,
 PI Parmelee D, White J;
 DR WPI: 97-435153/40.
 PT Polypeptide encoding chemokine beta 4 and monocyte chemotactic
 protein 4 - useful to treat tumours, autoimmune disease, infection,
 PT asthma and fibrosis

PS Example 11; Fig 5; 83pp; English.
 CC The present sequence is human chemokine beta10 (Ck beta10) or
 CC monocyte chemotactic protein 4 (MCP-4) Bac 2 variant, which can be
 CC used to treat patients deficient in Ck beta10, while a Ck beta10
 CC antagonist can be used to reduce excessive levels of Ck beta10. Ck
 CC beta10 can be used to treat leukaemia, solid tumours, chronic or
 CC opportunistic infections, autoimmune diseases, asthma, fibrotic
 CC diseases, psoriasis and neurodegenerative diseases. It also
 CC promotes wound healing, regulates haematopoiesis and generates
 CC antibodies. Labelled Ck beta10 can be used to identify its cognate
 CC receptor, while cells expressing the receptor can be used to screen
 CC compounds for (ant)agonist activity. The antagonist can be used to
 CC treat rheumatoid arthritis, allergies, autoimmune, chronic inflammatory or
 CC infectious diseases, psoriasis, prostaglandin dependent fever and
 CC bone marrow failure, silicosis, sarcoidosis, hyper-eosinophilic
 CC syndrome, lung inflammation and atherosclerosis. Ck beta10 cDNA can
 CC be used to isolate genes encoding similar peptides, in gene therapy
 CC and for chromosome identification.
 SQ Sequence 77 AA;

Query Match 87.0%; Score 87; DB 26; Length 77;
 Best Local Similarity 83.3%; Pred. No. 1.90e-01;
 Matches 10; Conservative 2; Mismatches 0; Indels 0; Gaps 0;
 Db 51 eicadpkpkvqv 62
 QY 1 EICADPKRWR 12
 |||||:|:|:|

RESULT 10
 ID W22674 standard; Protein; 79 AA.
 AC W22674;
 DT 19-MAR-1998 (first entry)
 DE Droll/2 chemokine beta10 or monocyte chemotactic protein 4 variant.
 KW Human; chemokine beta10; Ck beta10; treatment; antagonist;
 KW solid tumour; infection; autoimmune disease; asthma; antibody;
 KW fibrotic disease; psoriasis; neurodegenerative disease;
 KW wound healing; haematopoiesis regulation; gene therapy;
 KW chromosome identification; monocyte chemotactic protein 4;
 KW leukaemia; MCP-4; Droll/2 variant.
 OS Homo sapiens.
 PN W09731098-A1.
 PD 28-AUG-1997.
 PF 23-FEB-1996; U02598.
 PR 23-FEB-1996; WO-U02598.
 PA (HUMA-) HUMAN GENOME SCI INC.
 PI Adams M, Alderson R, Applebaum E, Li H, Li Y, Lima SH,
 PI Parmelee D, White J;
 DR WPI: 97-435153/40.
 PT Polypeptide encoding chemokine beta 4 and monocyte chemotactic
 protein 4 - useful to treat tumours, autoimmune disease, infection,
 PT asthma and fibrosis
 PS Example 11; Fig 5; 83pp; English.

CC The present sequence is human chemokine beta10 (Ck beta10) or
 CC monocyte chemotactic protein 4 (MCP-4) Droll/2 variant, which can
 CC be used to treat patients deficient in Ck beta10, while a Ck beta10
 CC antagonist can be used to reduce excessive levels of Ck beta10. Ck
 CC beta10 can be used to treat leukaemia, solid tumours, chronic or
 CC opportunistic infections, autoimmune diseases, asthma, fibrotic
 CC diseases, psoriasis and neurodegenerative diseases. It also
 CC promotes wound healing, regulates haematopoiesis and generates
 CC antibodies. Labelled Ck beta10 can be used to identify its cognate
 CC receptor, while cells expressing the receptor can be used to screen
 CC compounds for (ant)agonist activity. The antagonist can be used to
 CC treat rheumatoid arthritis, allergies, autoimmune, chronic inflammatory or
 CC infectious diseases, psoriasis, prostaglandin dependent fever and
 CC bone marrow failure, silicosis, sarcoidosis, hyper-eosinophilic
 CC syndrome, lung inflammation and atherosclerosis. Ck beta10 cDNA can
 CC be used to isolate genes encoding similar peptides, in gene therapy
 CC and for chromosome identification.
 SQ Sequence 79 AA;

Query Match 87.0%; Score 87; DB 26; Length 79;
 Best Local Similarity 83.3%; Pred. No. 1.90e-01;
 Matches 10; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

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Best Local Similarity 83.3%; Pred. No. 1.90e-01;
Matches 10; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Db 53 eicadpkpkekvvq 64
    |||||:|:|:|
QY 1 EICADPKRWR 12

RESULT 11
ID W22671 standard; Protein; 82 AA.
AC W22671;
DE Human chemokine beta10 or monocyte chemotactic protein 4 variant.
KW Human chemokine beta10; Ck beta10; treatment; antagonist;
KW solid tumour; infection; autoimmune disease; asthma; antibody;
KW fibrotic disease; psoriasis; neurodegenerative disease;
KW wound healing; hematopoiesis regulation; gene therapy;
KW chromosome identification; monocyte chemotactic protein 4;
KW leukaemia; MCP-4; Bac 1 variant.
OS Homo sapiens.
PN WO9731098-A1.
PD 28-AUG-1997.
PF 23-FEB-1996; U02598.
PR 23-FEB-1996; WO-U02598.
PA (HUMA-) HUMAN GENOME SCI INC.
PI Adams M, Alderson R, Applebaum E, Li H, Li Y, Lima SH,
PI Parmelee D, White J;
WPI: 97-435153/40.
DR Polypeptide encoding chemokine beta 4 and monocyte chemotactic
PT protein 4 - useful to treat tumours, autoimmune disease, infection,
PT asthma and fibrosis.
PS Example 11; Fig 5; 83pp; English.
CC The present sequence is human chemokine beta10 (Ck beta10) or
CC monocyte chemotactic protein 4 (MCP-4) Bac 1 variant, which can be
CC used to treat patients deficient in Ck beta10, while a Ck beta10
CC antagonist can be used to reduce excessive levels of Ck beta10. Ck
CC beta10 can be used to treat leukaemia, solid tumours, chronic or
CC opportunistic infections, autoimmune diseases, asthma, fibrotic
CC diseases, psoriasis and neurodegenerative diseases. It also
CC promotes wound healing, regulates hematopoiesis and generates
CC antibodies. Labelled Ck beta10 can be used to identify its cognate
CC receptor, while cells expressing the receptor can be used to screen
CC compounds for (antagonist) activity. The antagonist can be used to
CC treat rheumatoid arthritis, autoimmune, chronic inflammatory or
CC infectious diseases, allergies, prostaglandin dependent fever and
CC bone marrow failure, silicosis, sarcoidosis, hyper-eosinophilic
CC syndrome, lung inflammation and atherosclerosis. Ck beta10 cDNA can
CC be used to isolate genes encoding similar peptides, in gene therapy
CC and for chromosome identification.
SQ Sequence 82 AA;

Query Match 87.0%; Score 87; DB 26; Length 82;
Best Local Similarity 83.3%; Pred. No. 1.90e-01;
Matches 10; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Db 56 eicadpkpkekvvq 67
    |||||:|:|:|
QY 1 EICADPKRWR 12

RESULT 12
ID W17665 standard; peptide; 82 AA.
AC W17665;
DE 16-DPC-1997 (first entry)
DE Stem cell mobilising chemokine Ckbeta-10.
KW Haematopoietic cell; parasitic infection; colony stimulating factor;
KW haematoregulator; immune response; bacterial infection; transplant;
KW wound healing; bone marrow; immunosuppression; regeneration;
KW neoplastic disease; viral disease; gene therapy; cytotoxic drug.
OS Synthetic.
PN WO9715594-A1.
PD 01-MAY-1997.
PF 23-OCT-1996; U16959.

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24-OCT-1995; US-006051.
PA (SMIK ) SMITHKLINE BEECHAM CORP.
PI Kreider BL, Li H, Pelus L, White JR;
WPI: 97-258956/23.
DR Ten new chemokine(s) able to mobilise stem cells - used where
PT increased levels of haematopoietic cells are required, e.g. to
PT increase resistance to infection
PS Claim 7; Page 11-12; 24pp; English.
CC The present sequence represents a chemokine, Ckbeta-10, which is capable
CC of mobilising stem cells. The chemokine can be used therapeutically to
CC improve stem cell mobilisation, optionally together with a colony
CC stimulating factor or other haematopoietic agent. It can be used
CC wherever an increased level of haematopoietic cells is needed, e.g. to
CC increase the immune response to chronic infection (particularly
CC bacteria or parasitic), to promote wound healing, in (transplant)
CC patients with reduced bone marrow function as a result of
CC immunosuppressive treatment or disease, and to provide more rapid
CC regeneration of bone marrow after treatment for neoplastic or viral
CC diseases. The induced stem cells may be harvested for subsequent return
CC to the patient, optionally after they have been genetically manipulated
CC to deliver a selected gene product (gene therapy). The cells may be
CC co-administered with a cytotoxic drug.
SQ Sequence 82 AA;

Query Match 87.0%; Score 87; DB 24; Length 82;
Best Local Similarity 83.3%; Pred. No. 1.90e-01;
Matches 10; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Db 56 eicadpkpkekvvq 67
    |||||:|:|:|
QY 1 EICADPKRWR 12

RESULT 13
ID W22670 standard; Protein; 98 AA.
AC W22670;
DE 19-MAR-1998 (first entry)
DE Human chemokine beta10 or monocyte chemotactic protein 4.
KW Human chemokine beta10; Ck beta10; treatment; antagonist;
KW solid tumour; infection; autoimmune disease; asthma; antibody;
KW fibrotic disease; psoriasis; neurodegenerative disease;
KW wound healing; hematopoiesis regulation; gene therapy;
KW chromosome identification; monocyte chemotactic protein 4;
KW leukaemia; MCP-4.
OS Homo sapiens.
FH Key Location/Qualifiers
FT Peptide 1..23
FT Peptide /label= sig_peptide
FT Peptide 24..98
FT Peptide /label= mat_peptide
PN WO9731098-A1.
PD 28-AUG-1997.
PF 23-FEB-1996; U02598.
PR 23-FEB-1996; WO-U02598.
PA (HUMA-) HUMAN GENOME SCI INC.
PI Adams M, Alderson R, Applebaum E, Li H, Li Y, Lima SH,
PI Parmelee D, White J;
WPI: 97-435153/40.
DR N-PSDB; T85029.
PT Polypeptide encoding chemokine beta 4 and monocyte chemotactic
PT protein 4 - useful to treat tumours, autoimmune disease, infection,
PT asthma and fibrosis
PS Claim 1; Fig 2; 83pp; English.
CC The present sequence is human chemokine beta10 (Ck beta10) or
CC monocyte chemotactic protein 4 (MCP-4), which can be used to treat
CC patients deficient in Ck beta10, while a Ck beta10 antagonist can be
CC used to reduce excessive levels of Ck beta10. Ck beta10 can be
CC used to treat leukaemia, solid tumours, chronic or opportunistic
CC infections, autoimmune diseases, asthma, fibrotic diseases,
CC psoriasis, and neurodegenerative diseases. It also promotes wound
CC healing, regulates hematopoiesis and generates antibodies.
CC Labelled Ck beta10 can be used to identify its cognate receptor,
CC while cells expressing the receptor can be used to screen compounds

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M P E R C H
***** (TM)

Release 3.1A John F. Collins, Biocomputing Research Unit.
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MPsrch_pp protein - protein database search, using Smith-Waterman algorithm
Run on: Fri Feb 4 17:57:30 2000; MasPar time 5.04 Seconds
Tabular output not generated. 129.952 Million cell updates/sec
Title: >US-09-150-813-68
Description: (1-12) from US09150813.pep
Perfect Score: 97
Sequence: 1 DICADPKKKWQ 12
Scoring table: PAM 150
Gap 15
Searched: 179066 seqs, 54579741 residues
Post-processing: Minimum Match 0%
Listing first 45 summaries
Database: sptrembl9
1:sp_archaea 2:sp_bacteria 3:sp_fungi 4:sp_human
5:sp_invertebrate 6:sp_mammal 7:sp_mhc 8:sp_organelle
9:sp_phase 10:sp_plant 11:sp_rodent 12:sp_unclassified
13:sp_vertebrate 14:sp_virus
Statistics: Mean 25.541; Variance 34.851; scale 0.733
Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

| Result No. | Score | Query Match | Length | DB | ID | Description | Pred. No. |
|------------|-------|-------------|--------|----|--------|------------------------|-----------|
| 1 | 77 | 79.4 | 395 | 11 | 035188 | NEUROTACTIN. | 3.08e-04 |
| 2 | 77 | 79.4 | 395 | 11 | 035933 | FRACTALKINE. | 3.08e-04 |
| 3 | 73 | 75.3 | 91 | 4 | 043646 | RANTES PRECURSOR. | 2.29e-03 |
| 4 | 72 | 74.2 | 95 | 14 | 098158 | ORF K6. | 3.76e-03 |
| 5 | 71 | 73.2 | 134 | 4 | 000585 | BETA CHEMOKINE EXODUS- | 6.15e-03 |
| 6 | 69 | 71.1 | 92 | 11 | 088430 | CC CHEMOKINE ABCD-1. | 1.63e-02 |
| 7 | 69 | 71.1 | 97 | 11 | 089093 | CC CHEMOKINE ST38 PREC | 1.63e-02 |
| 8 | 69 | 71.1 | 97 | 6 | 062812 | INTERLEUKIN-8 (FRAGMEN | 1.63e-02 |
| 9 | 68 | 70.1 | 119 | 4 | 000175 | MP1F-2. | 2.64e-02 |
| 10 | 67 | 69.1 | 120 | 4 | 015467 | IL-10-INDUCIBLE CHEMOK | 4.25e-02 |
| 11 | 66 | 68.0 | 80 | 4 | 014745 | LD78 ALPHA BETA PRECUR | 6.83e-02 |
| 12 | 66 | 68.0 | 97 | 13 | 057411 | LYMPHOTACTIN PRECURSOR | 6.83e-02 |
| 13 | 66 | 68.0 | 101 | 13 | 093238 | CC CHEMOKINE-1. | 6.83e-02 |
| 14 | 65 | 67.0 | 93 | 4 | 000626 | MACROPHAGE-DERIVED CHE | 1.09e-01 |
| 15 | 65 | 67.0 | 95 | 4 | 099664 | CHEMOKINE EXODUS. | 1.09e-01 |
| 16 | 65 | 67.0 | 96 | 11 | P97884 | CC CHEMOKINE EXODUS. | 1.09e-01 |
| 17 | 65 | 67.0 | 109 | 11 | O55038 | B LYMPHOCYTE CHEMOKIN | 2.77e-01 |
| 18 | 63 | 64.9 | 397 | 4 | P78423 | CX3C CHEMOKINE PRECURS | 2.77e-01 |
| 19 | 63 | 64.9 | 1224 | 5 | P91309 | CODED FOR BY C. ELEGAN | 4.38e-01 |
| 20 | 62 | 63.9 | 760 | 3 | Q99126 | CHITIN SYNTHETASE I. | 4.38e-01 |

BETA CHEMOKINE EXODUS- 6.90e-01
SMALL INDUCIBLE CYTOKI 6.90e-01
T01D3.3 PROTEIN. 6.90e-01
CXC CHEMOKINE PRECURSO 2.62e+00
C05D2.8 PROTEIN. 4.06e+00
ECO Q PROTEIN (FRAGMEN 4.06e+00
O3625P. 6.24e+00
VMIP-1B. 6.24e+00
MHC CLASS I HEAVY CHAI 6.24e+00
1-AMINOCYCLOPROPANE-1- 6.24e+00
RUVY. 6.24e+00
ACC SYNTHASE (EC 4.4.1 6.24e+00
1-AMINOCYCLOPROPANE-1- 6.24e+00
1-AMINOCYCLOPROPANE-1- 6.24e+00
HYPOTHETICAL 65.2 KD P 6.24e+00
T26J13.4 PROTEIN. 6.24e+00
RNA HELICASE. 9.56e+00
INSERTION ELEMENT IS61 9.56e+00
ENVELOPE GLYCOPROTEIN. 9.56e+00
ENVELOPE GLYCOPROTEIN. 9.56e+00
ENVELOPE GLYCOPROTEIN. 9.56e+00
ENVELOPE GLYCOPROTEIN. 9.56e+00
ENVELOPE GLYCOPROTEIN. 9.56e+00
ORF UL154. 1.46e+01
MAJOR ENVELOPE GLYCOPR 1.46e+01

ALIGNMENTS
RESULT 1
ID 035188; PRELIMINARY; PRT; 395 AA.
AC 035188;
DT 01-JAN-1998 (TREMREL. 05, CREATED)
DT 01-JAN-1998 (TREMREL. 05, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMREL. 08, LAST ANNOTATION UPDATE)
DE NEUROTACTIN.
GN SCYD1.
OS MUS MUSCULUS (MOUSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
RN SCIUROGNATHI; MURIDAE; MURINAE; MUS.
RP SEQUENCE FROM N.A.
RX MEDLINE; 97320499.
RA PAN Y., CLARE L., HONG Z., DOLICH S., DEEDS J., GONZALO J., VATH J.,
RA GOSSELIN M., MA J., DUSSAULT B., WOLFF B., ALPERIN A., CULPEPPER J.,
RA GUTIERREZ-RAMOS J.C., GEARING D.;
RT "Neurotactin, a membrane-anchored chemokine upregulated in brain
inflammation.";
RL NATURE 387:611-617(1997).
DR EMBL; AF010586; G2317698; -
DR MGI; 1097153; SCYD1.
DR PFAM; PF00048; i18; 1.
SQ SEQUENCE 395 AA; 42098 MW; E3CD0612 CRC32;

Query Match 79.4%; Score 77; DB 11; Length 395;
Best Local Similarity 81.8%; Pred. No. 3.08e-04;
Matches 9; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
Db 73 FCADPKKKWQ 83
QY 2 ICADPKKKWQ 12
RESULT 2
ID 035933; PRELIMINARY; PRT; 395 AA.
AC 035933;
DT 01-JAN-1998 (TREMREL. 05, CREATED)
DT 01-JAN-1998 (TREMREL. 05, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMREL. 08, LAST ANNOTATION UPDATE)
DE FRACTALKINE.
OS MUS MUSCULUS (MOUSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
RN SCIUROGNATHI; MURIDAE; MURINAE; MUS.

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RN  [1]
RP  SEQUENCE FROM N.A.
RC  STRAIN-BALB/C; TISSUE-BRAIN;
RA  ROSSI D., HARDIMAN G., COPELAND N., GILBERT D.J., JENKINS N.,
RA  ZLOTNIK A., BAZAN J.F.;
RL  SUBMITTED (MAR-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
DR  EMBL; U92565; G2459677; -
DR  PFAM; PF00048; 118; 1.
SQ  SEQUENCE 395 AA; 42040 MW; 3997A113 CRC32;

Query Match          79.4%; Score 77; DB 11; Length 395;
Best Local Similarity 81.8%; Pred. No. 3.08e-04;
Matches          9; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db  73 FCADPKKKWQ 83
QY  2 ICADPKKKWQ 12

RESULT 3
ID  O43646; PRELIMINARY; PRT; 91 AA.
DT  01-JUN-1998 (TREMBLREL. 06, CREATED)
DT  01-JUN-1998 (TREMBLREL. 06, LAST SEQUENCE UPDATE)
DE  RANTES PRECURSOR.
GN  SCYA5.
OS  HOMO SAPIENS (HUMAN).
OC  EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
CC  CATARRHINI; HOMINIDAE; HOMO.
RN  [1]
RA  JANG J.S., KIM B.E.;
RL  SUBMITTED (JAN-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
RN  [2]
RA  NOMIYAMA H.;
RL  "Structure of a region of 181 kb containing five CC chemokine
RL  genes.";
RL  SUBMITTED (AUG-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
DR  EMBL; AF043341; G2905632; -
DR  EMBL; AF088219; G3719366; -
DR  PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
KW  SIGNAL.
FT  SIGNAL 1 23 POTENTIAL.
FT  CHAIN 24 91 RANTES.
SQ  SEQUENCE 91 AA; 9990 MW; CF404FAD CRC32;

Query Match          75.3%; Score 73; DB 4; Length 91;
Best Local Similarity 58.3%; Pred. No. 2.29e-03;
Matches          7; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db  71 OVCANPEKKWVR 82
QY  1 DICADPKKKWQ 12

RESULT 4
ID  Q98158; PRELIMINARY; PRT; 95 AA.
AC  Q98158; 012569;
DT  01-FEB-1997 (TREMBLREL. 02, CREATED)
DT  01-JUL-1997 (TREMBLREL. 04, LAST SEQUENCE UPDATE)
DE  ORF K6.
OS  KAPOSI'S SARCOMA-ASSOCIATED HERPESVIRUS.
OC  VIRUSES; DSNA VIRUSES. NO RNA STAGE; HERPESVIRIDAE;
OC  GAMMAHERPESVIRINAE; RHADINOVIRUS.
RN  [1]
RA  MOORE P.S., BASHOFF C., WEISS R.A., CHANG Y.;
RL  "Molecular mimicry of human cytokine and cytokine response pathway
RT  genes by KSHV.";

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RL  SCIENCE 274:1739-1744(1996).
RN  [2]
RP  SEQUENCE FROM N.A.
RX  MEDLINE; 97121480.
RA  RUSSO J.J., BOHENZKY R.A., CHIEN M.C., CHEN J., YAN M., MADDALENA D.,
RA  PARRY J.P., PERUZZI D., EDELMAN I.S., CHANG Y., MOORE P.S.;
RT  "Nucleotide sequence of the Kaposi sarcoma-associated herpesvirus
RT  (HHV8).";
RL  PROC. NATL. ACAD. SCI. U.S.A. 93:14862-14867(1996).
RN  [3]
RP  SEQUENCE FROM N.A.
RA  RUSSO J.J., BOHENZKY R.A., CHIEN M.C., CHEN J., YAN M., MADDALENA D.,
RA  PARRY J.P., PERUZZI D., EDELMAN I.S., CHANG Y., MOORE P.S.;
RL  SUBMITTED (OCT-1996) TO EMBL/GENBANK/DBJ DATA BANKS.
RN  [4]
RP  SEQUENCE FROM N.A.
RA  NICHOLAS J., RUVOLO V.R., BURNS W.H., SANDFORD G., WAN X., CIUFO D.,
RA  HENDRICKSON S., GUO H.G., HAYWARD G.S., REITZ M.S.;
RL  SUBMITTED (NOV-1996) TO EMBL/GENBANK/DBJ DATA BANKS.
RN  [5]
RP  SEQUENCE FROM N.A.
RA  RUSSO J.J., BOHENZKY R.A., CHIEN M.C., CHEN J., YAN M., MADDALENA D.,
RA  PARRY J.P., PERUZZI D., EDELMAN I.S., CHANG Y., MOORE P.S.;
RL  SUBMITTED (MAY-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
RN  [6]
RP  SEQUENCE FROM N.A.
RA  RUSSO J.J., BOHENZKY R.A., CHIEN M.C., CHEN J., YAN M., MADDALENA D.,
RA  PARRY J.P., PERUZZI D., EDELMAN I.S., CHANG Y., MOORE P.S.;
RL  SUBMITTED (MAY-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
RN  [7]
RP  SEQUENCE FROM N.A.
RA  SUN R., LIN S.-F., MILLER G.;
RL  SUBMITTED (SEP-1996) TO EMBL/GENBANK/DBJ DATA BANKS.
DR  EMBL; U75698; G1718266; -
DR  EMBL; U74585; G1658273; -
DR  EMBL; U93872; G2246546; -
DR  EMBL; U71366; G3551763; -
DR  PFAM; PF00048; 118; 1.
KW  HYPOTHETICAL PROTEIN.
SQ  SEQUENCE 95 AA; 10485 MW; 5283348D CRC32;

Query Match          74.2%; Score 72; DB 14; Length 95;
Best Local Similarity 66.7%; Pred. No. 3.76e-03;
Matches          8; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

Db  74 QICADPSKNWVR 85
QY  1 DICADPKKKWQ 12

RESULT 5
ID  O00585; PRELIMINARY; PRT; 134 AA.
AC  O00585;
DT  01-JUL-1997 (TREMBLREL. 04, CREATED)
DT  01-JUL-1997 (TREMBLREL. 04, LAST SEQUENCE UPDATE)
DE  BETA CHEMOKINE EXODUS-2.
OS  HOMO SAPIENS (HUMAN).
OC  EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC  CATARRHINI; HOMINIDAE; HOMO.
RN  [1]
RP  SEQUENCE FROM N.A.
RA  HROMAS R.A., GRAY P., KLEMSZ M., FIFE K., BROXMEYER H.;
RL  SUBMITTED (JUN-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
RN  [2]
RP  SEQUENCE FROM N.A.
RX  MEDLINE; 97400322.
RA  HEDRICK J.A., ZLOTNIK A.;
RT  "Identification and characterization of a novel beta chemokine
RT  containing six conserved cysteines.";

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US-09-150-813-68.rspt

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display, is upregulated in brain inflammation.";

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RT J. IMMUNOL. 159:1589-1593(1997).
RN [3]
RN SEQUENCE FROM N.A.
RA HEDRICK J.A., ZLOTNIK A.;
RA SUBMITTED (MAY-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [4]
RN SEQUENCE FROM N.A.
RA NAGIRA M., IMAI T., HIESHIMA K., KUSUDA J., RIDANPAA M., TAKAGI S.,
RA NISHIMURA M., KAKIZAKI M., NOMIYAMA H., YOSHIE O.;
RA SUBMITTED (AUG-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [5]
RN SEQUENCE FROM N.A.
RA EMBL: U88320; G2196920; -.
DR EMBL: AF001979; G2624925; -.
DR EMBL: AB002409; D1022673; -.
DR PFAM: PF00048; i18; 1; 14646 MW; FE86A239 CRC32;
SQ SEQUENCE 134 AA; 14646 MW; 10302 MW; 10302 MW; BC7219A0 CRC32;

Query Match 73.2%; Score 71; DB 4; Length 134;
Best Local Similarity 66.7%; Pred. No. 6.15e-03;
Matches 8; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Db 73 ELCADPKKELWQ 84
QY 1 DICADPKKKWQ 12

RESULT 6 PRELIMINARY; PRT; 92 AA.
ID O88430;
AC O88430;
DT 01-NOV-1998 (TREMBLREL. 08, CREATED)
DT 01-NOV-1998 (TREMBLREL. 08, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE CC CHEMOKINE ABCD-1.
OS MUS MUSCULUS (MOUSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
OC SCIUROGNATHI; MURIDAE; MURINAE; MUS.
RN [1]
RN SEQUENCE FROM N.A.
RA TISSUE=LIVER;
RA MEDLINE: 98353531.
RA SCHANTEL C., PARDALI E., SALLUSTO F., SPELETAS M., RUEDL C.,
RA SHIMIZU T., SEIDL T., ANDERSSON J., MELCHERS F., ROLINK A.G.,
RA SIDERAS P.;
RA "Activated murine B lymphocytes and dendritic cells produce a novel
RA CC chemokine which acts selectively on activated T cells.";
RA J. EXP. MED. 188:451-463(1998).
DR EMBL: AF052505; G3378116; -.
DR EMBL: AF052505; G3378116; -.
SQ SEQUENCE 92 AA; 10302 MW; 10302 MW; 10302 MW; BC7219A0 CRC32;

Query Match 71.1%; Score 69; DB 11; Length 92;
Best Local Similarity 72.7%; Pred. No. 1.63e-02;
Matches 8; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Db 74 DICADPKKELWQ 84
QY 1 DICADPKKKWV 11

RESULT 7 PRELIMINARY; PRT; 97 AA.
ID O89093;
AC O89093;
DT 01-NOV-1998 (TREMBLREL. 08, CREATED)
DT 01-NOV-1998 (TREMBLREL. 08, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE CC CHEMOKINE ST38 PRECURSOR.
OS LAR.
GN MUS MUSCULUS (MOUSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
OC SCIUROGNATHI; MURIDAE; MURINAE; MUS.
RN [1]
RN SEQUENCE FROM N.A.
RA UTANS-SCHNEITZ U., LOREZ H., KLINKERT W.E.F., DA SILVA J.,
RA LESSLAUER W.;
RA "A novel rat CC chemokine, identified by targeted differential
RN
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Matches      7;  Conservative      3;  Mismatches      2;  Indels      0;  Gaps      0;

Db 72 QFCGDPKQEWVQ 83
QY 1 DICADPKKKWVQ 12

RESULT 10
ID O15467 PRELIMINARY; PRT; 120 AA.
AC O15467;
DT 01-JAN-1998 (TREMBLREL. 05, CREATED)
DT 01-JAN-1998 (TREMBLREL. 05, LAST SEQUENCE UPDATE)
DE IL-10-INDUCIBLE CHEMOKINE.
GN ILINCK OR SCYA16.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RA HEDRICK J.A., HELMS A., GORMAN D., ZLOTNIK A.;
RL SUBMITTED (NOV-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [2]
RP SEQUENCE FROM N.A.
RC TISSUE=LIVER;
RA SHODAI K., HIESHIMA K., FUKUDA S., IIO M., MIURA R., IMAI T.,
RA YOSHIE O., NOMIYAMA H.;
RN [3]
RP SEQUENCE FROM N.A.
RA NOMIYAMA H.;
RT "Structure of a region of 181 kb containing five CC chemokine
genes."
RL SUBMITTED (AUG-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [4]
RP SEQUENCE FROM N.A.
RX MEDLINE: 98308096.
RA YOUNG B.S., ZHANG S., BROXMEYER H.E., ANTOL K., FRASER M.J. JR.,
RA HANGOC G., KWON B.S.;
RT "Isolation and characterization of LMC, a novel lymphocyte and
monocyte chemoattractant human CC chemokine, with myelosuppressive
activity."
RL BIOCHEM. BIOPHYS. RES. COMMUN. 247:217-222(1998).
DR ENBL; U91746; G2581781;
DR ENBL; AB007454; D1024963;
DR ENBL; AF088219; G3719365;
DR ENBL; AF055467; G3395776;
KW PFAM; PF000048; i18; 1.
KW SIGNAL.
SQ SEQUENCE 120 AA; 13600 MW; A079DF66 CRC32;

Query Match      69.1%; Score 67; DB 4; Length 120;
Best Local Similarity 41.7%; Pred. No. 4.25e-02;
Matches      5;  Conservative      5;  Mismatches      2;  Indels      0;  Gaps      0;

Db 74 EVCNPNDDWVQ 85
QY 1 DICADPKKKWVQ 12

RESULT 11
ID Q14745 PRELIMINARY; PRT; 80 AA.
AC Q14745;
DT 01-NOV-1996 (TREMBLREL. 01, CREATED)
DT 01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)
DE LD78 ALPHA BETA PRECURSOR (FRAGMENT).
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE-BRAIN;

Matches      7;  Conservative      3;  Mismatches      2;  Indels      0;  Gaps      0;

Db 72 QVCADPSEWVQ 76
QY 1 DICADPKKKWVQ 12

Query Match      68.0%; Score 66; DB 4; Length 80;
Best Local Similarity 58.3%; Pred. No. 6.83e-02;
Matches      7;  Conservative      2;  Mismatches      3;  Indels      0;  Gaps      0;

Db 65 QVCADPSEWVQ 76
QY 1 DICADPKKKWVQ 12

RESULT 12
ID O57411 PRELIMINARY; PRT; 97 AA.
AC O57411;
DT 01-JUN-1998 (TREMBLREL. 06, CREATED)
DT 01-JUN-1998 (TREMBLREL. 06, LAST SEQUENCE UPDATE)
DE LYMPHOTACTIN PRECURSOR.
OS GALLUS GALLUS (CHICKEN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; ARCHOSAURIA; AVES;
OC NEOGNATHAE; GALLIFORMES; PHASIANIDAE; PHASIANINAE; GALLUS.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=SPLEEN;
RA ROSSI D.L., BAZAN J.F., ZLOTNIK A.;
RL SUBMITTED (JUN-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
DR ENBL; AF006742; G2827882;
KW SIGNAL.
FT SIGNAL.
FT CHAIN 1 24 POTENTIAL.
FT CHAIN 25 97 LYMPHOTACTIN.
SQ SEQUENCE 97 AA; 11131 MW; 3290101C CRC32;

Query Match      68.0%; Score 66; DB 13; Length 97;
Best Local Similarity 63.6%; Pred. No. 6.83e-02;
Matches      7;  Conservative      0;  Mismatches      4;  Indels      0;  Gaps      0;

Db 72 ICVHPEQKWVQ 82
QY 2 ICADPKKKWVQ 12

RESULT 13
ID O93238 PRELIMINARY; PRT; 101 AA.
AC O93238;
DT 01-NOV-1998 (TREMBLREL. 08, CREATED)
DT 01-NOV-1998 (TREMBLREL. 08, LAST SEQUENCE UPDATE)
DE CC CHEMOKINE-1.
OS CYPRINUS CARPIO (COMMON CARP).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; ACTINOPTERYGII; NEOPTERYGII;
OC TELEOSTEI; EUTELEOSTEI; OSTARIOPHYSI; CYPRINIFORMES; CYPRINOIDEA;
OC CYPRINIDAE; CYPRININAE; CYPRINUS.
RN [1]
RP SEQUENCE FROM N.A.
RA FUJIKI K., NAKAO M., SHIN D., YANO T.;
RT "cDNA cloning of a carp CC chemokine homologous to mammalian
eotaxins."
RL SUBMITTED (JAN-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
DR ENBL; AB010469; D1032417;
SQ SEQUENCE 101 AA; 11266 MW; 9CFBD540 CRC32;

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Query Match 68.0%; Score 66; DB 13; Length 101;
Best Local Similarity 54.5%; Pred. No. 6.83e-02;
Matches 4; Mismatches 1; Indels 0; Gaps 0;
MDC OR A-152E5.1
DB 72 EFCSDPKLRWV 82
QY 1 DICADPKKKWV 11

Query Match 67.0%; Score 65; DB 4; Length 95;
Best Local Similarity 60.0%; Pred. No. 1.09e-01;
Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
DB 72 VCANPKQTVW 81
QY 2 ICADPKKKWV 11

Search completed: Fri Feb 4 17:58:25 2000
Job time : 55 secs.

Query Match 68.0%; Score 66; DB 13; Length 101;
Best Local Similarity 54.5%; Pred. No. 6.83e-02;
Matches 4; Mismatches 1; Indels 0; Gaps 0;
MDC OR A-152E5.1
DB 72 EFCSDPKLRWV 82
QY 1 DICADPKKKWV 11

Query Match 67.0%; Score 65; DB 4; Length 95;
Best Local Similarity 60.0%; Pred. No. 1.09e-01;
Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
DB 72 VCANPKQTVW 81
QY 2 ICADPKKKWV 11

Search completed: Fri Feb 4 17:58:25 2000
Job time : 55 secs.

RESULT 14
ID O00626 PRELIMINARY; PRT; 93 AA.
AC O00626;
DT 01-JUL-1997 (TREMREL. 04, CREATED)
DT 01-JUL-1997 (TREMREL. 04, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMREL. 08, LAST SEQUENCE UPDATE)
DE MACROPHAGE-DERIVED CHEMOKINE PRECURSOR.
GN MDC OR A-152E5.1
OS HOMO SAPIENS (HUMAN)
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RA GODISKA R., CHANTRY D., RAPORT C.J., SOZZANI S., ALLAVENA P.,
RA MANTOVANI A., GRAY P.W.,
RL J. EXP. MED. 185:0-0(0).
RN [2]
RP SEQUENCE FROM N.A.
RA CHANG M.S., MCNINCH J., ELIAS III C., MANTHEY C.L., GROSSHANS D.,
RA MENG T., BOONE T., ANDREW D.P.;
RL SUBMITTED (JUN-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [3]
RP SEQUENCE FROM N.A.
RA ADAMS M.D., LOFTUS B.J., ZHOU L., CROSBY M., FUHRMANN J., MASON T.M.,
RA BRANDON R., KIM U.J., KERLAVAGE A.R., VENTER J.C.;
RT "Homo sapiens Chromosome 16 BAC clone CIT987SK-A-152E5.";
RL SUBMITTED (JUN-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL; U83171; G1931581;
DR EMBL; U83239; G2062425;
DR EMBL; AC004382; G3252820;
DR PFAM; PF00048; I18; 1.
KW SIGNAL.
FT CHAIN 1 24 POTENTIAL.
FT CHAIN 25 93 MACROPHAGE-DERIVED CHEMOKINE.
SQ SEQUENCE 93 AA; 10580 MW; 65EA63D2 CRC32;
Query Match 67.0%; Score 65; DB 4; Length 93;
Best Local Similarity 63.6%; Pred. No. 1.09e-01;
Matches 7; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
DB 74 EICADPRVPWV 84
QY 1 DICADPKKKWV 11

RESULT 15
ID Q99664 PRELIMINARY; PRT; 95 AA.
AC Q99664;
DT 01-MAY-1997 (TREMREL. 03, CREATED)
DT 01-MAY-1997 (TREMREL. 03, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMREL. 08, LAST SEQUENCE UPDATE)
DE CHEMOKINE EXODUS.
OS HOMO SAPIENS (HUMAN)
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RP TISSUE-PANCREAS;
RX MEDLINE; 97275143.
RA HROMAS R., GRAY P.W., CHANTRY D., GODISKA R., KRATHWOHL M., FIFE K.,
RA BELL G.I., TAKEDA J., ARONICA S., GORDON M., COOPER S.,
RA BROXMEYER H.E., KLEMSZ M.J.;
RT "Cloning and characterization of exodus, a novel beta-chemokine.";
RL BLOOD 89:3315-3322(1997).

W P S R L H (TM)

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MPsrch_pp protein - protein database search, using Smith-Waterman algorithm

Run on: Fri Feb 4 17:56:21 2000; MasPar time 3.58 Seconds
134.279 Million cell updates/sec

Tabular output not generated.

Title: >US-09-150-813-68
Description: (1-12) from US09150813.pep
Perfect Score: 97
Sequence: 1 DICADPKKKWVQ 12

Scoring table: PAM 150
Gap 15

Searched: 122810 seqs, 40068593 residues

Post-processing: Minimum Match 0%
Listing first 45 summaries

Database: pir60
1:pir1 2:pir2 3:pir3 4:pir4

Statistics: Mean 24.895; Variance 36.317; scale 0.685

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match % | Length | ID | Description | Pred. No. |
|------------|-------|---------------|--------|--------|-----------------------|-----------|
| 1 | 94 | 96.9 | 97 | JC4912 | eotaxin precursor - h | 7.77e-08 |
| 2 | 91 | 93.8 | 96 | JC2478 | eotaxin precursor - r | 3.65e-07 |
| 3 | 91 | 93.8 | 96 | I48099 | eotaxin precursor - g | 3.65e-07 |
| 4 | 89 | 91.8 | 99 | A60299 | monocyte chemoattract | 1.01e-06 |
| 5 | 88 | 90.7 | 99 | JC2136 | monocyte chemoattract | 1.68e-06 |
| 6 | 86 | 88.7 | 148 | A30209 | PDGF-inducible JE gly | 4.62e-06 |
| 7 | 84 | 86.6 | 99 | A39296 | monocyte chemoattract | 1.26e-05 |
| 8 | 84 | 86.6 | 99 | JC2336 | monocyte chemoattract | 1.26e-05 |
| 9 | 84 | 86.6 | 125 | I46857 | monocyte chemoattract | 1.26e-05 |
| 10 | 82 | 84.5 | 109 | A54678 | monocyte chemotactic | 3.39e-05 |
| 11 | 82 | 84.5 | 148 | S07723 | immediate-early serum | 3.39e-05 |
| 12 | 80 | 82.5 | 99 | JC2417 | monocyte chemoattract | 3.08e-05 |
| 13 | 80 | 82.5 | 101 | I48147 | monocyte chemoattract | 3.08e-05 |
| 14 | 80 | 82.5 | 101 | I48147 | monocyte chemoattract | 3.08e-05 |
| 15 | 79 | 81.4 | 91 | A46539 | monocyte chemoattract | 1.48e-04 |
| 16 | 79 | 81.4 | 95 | JN0841 | interleukin-8 - dog | 1.48e-04 |
| 17 | 79 | 81.4 | 101 | I46997 | interleukin-8 - sheep | 1.48e-04 |
| 18 | 79 | 81.4 | 101 | S42496 | interleukin-8 - sheep | 1.48e-04 |
| 19 | 79 | 81.4 | 103 | A44253 | alveolar macrophage c | 1.48e-04 |
| 20 | 79 | 81.4 | 103 | A53096 | interleukin-8 precurs | 1.48e-04 |
| 21 | 77 | 79.4 | 92 | I52322 | macrophage inflammato | 3.90e-04 |
| 22 | 77 | 79.4 | 99 | JC5295 | monocyte chemotactic | 3.90e-04 |
| 23 | 76 | 78.4 | 101 | I46871 | interleukin-8 - rabbi | 6.31e-04 |

| | | | | | | |
|----|----|------|-----|--------|-----------------------|----------|
| 24 | 73 | 75.3 | 91 | A28815 | monocyte chemoattract | 2.63e-03 |
| 25 | 71 | 73.2 | 89 | I53416 | interleukin-8 homolog | 6.70e-03 |
| 26 | 71 | 73.2 | 89 | A53497 | pre-B-cell growth-sti | 6.70e-03 |
| 27 | 71 | 73.2 | 93 | G01540 | cytokine SDF-1-beta | 6.70e-03 |
| 28 | 71 | 73.2 | 93 | I81182 | cytokine - mouse | 6.70e-03 |
| 29 | 70 | 72.2 | 92 | A32393 | macrophage inflammato | 1.07e-02 |
| 30 | 70 | 72.2 | 99 | A37034 | interleukin-8 precurs | 1.07e-02 |
| 31 | 67 | 69.1 | 120 | JE0177 | lymphocyte and monocy | 4.21e-02 |
| 32 | 66 | 68.0 | 50 | C60407 | macrophage inflammato | 6.61e-02 |
| 33 | 66 | 68.0 | 92 | A31767 | macrophage inflammato | 6.61e-02 |
| 34 | 66 | 68.0 | 92 | A30574 | LD78-beta protein pre | 6.61e-02 |
| 35 | 66 | 68.0 | 93 | B35673 | lymphotactin precurs | 6.61e-02 |
| 36 | 66 | 68.0 | 114 | ETMSL | immune activation gen | 2.51e-01 |
| 37 | 63 | 64.9 | 92 | I46730 | Chitin synthetase I - | 3.88e-01 |
| 38 | 62 | 63.9 | 760 | S55520 | monocytic cytokine FI | 9.20e-01 |
| 39 | 60 | 61.9 | 97 | A48093 | transformation-induce | 9.20e-01 |
| 40 | 60 | 61.9 | 103 | A26736 | RSV-induced protein - | 9.20e-01 |
| 41 | 60 | 61.9 | 103 | T50417 | TCA3 protein - mouse | 1.41e+00 |
| 42 | 59 | 60.8 | 114 | S24236 | lymphotactin precurs | 1.41e+00 |
| 43 | 59 | 60.8 | 92 | ETHUL | hypothetical protein | 3.25e+00 |
| 44 | 57 | 58.8 | 397 | S67061 | SERA antigen/papain-1 | 3.25e+00 |
| 45 | 57 | 58.8 | 946 | G71617 | | |

ALIGNMENTS

| | |
|-----------------------|--|
| RESULT | 1 |
| ENTRY | JC4912 |
| TITLE | eotaxin precursor - human |
| ORGANISM | #formal_name Homo sapiens #common_name man |
| DATE | 01-Nov-1996 #sequence_revision 01-Nov-1996 #text_change 13-Nov-1998 |
| ACCESSIONS | JC4912 |
| REFERENCE | JC4912 |
| #authors | Bartels, J.; Schlueter, C.; Richter, E.; NOSO, N.; Kulke, R.; Christoffers, E.; Schroeder, J.M. |
| #journal | Biochem. Biophys. Res. Commun. (1996) 225:1045-1051 |
| #title | Human dermal fibroblasts express eotaxin: Molecular cloning, mRNA expression, and identification of eotaxin sequence variants. |
| #accession | JC4912 |
| ##status | preliminary |
| ##molecule_type | mRNA |
| ##residues | 1-97 |
| ##label | BAR |
| ##cross-references | EMBL:Z75668; NID:G1531982; PID:e251275; PID:G1531983 |
| ##experimental_source | dermal fibroblast |
| ##description | This protein has eosinophil specific chemotactic activity. |
| CLASSIFICATION | #superfamily macrophage inflammatory protein fibroblast |
| FEATURES | |
| 1-18 | #domain signal sequence #status predicted #label SIG\ |
| 19-97 | #product eotaxin #status predicted #label MAT |
| SUMMARY | #length 97 #molecular-weight 10790 #checksum 448 |
| Query Match | 96.9%; Score 94; DB 2; Length 97; |
| Best Local Similarity | 91.7%; Pred. No. 7.77e-08; |
| Matches | 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0; |
| Db | 71 DICADPKKKWVQ 82 |
| Qy | 1 DICADPKKKWVQ 12 |
| RESULT | 2 |
| ENTRY | JC2478 |
| TITLE | eotaxin precursor - rat |
| ORGANISM | #formal_name Rattus norvegicus #common_name Norway rat |
| DATE | 21-Feb-1995 #sequence_revision 05-Apr-1995 #text_change 17-Mar-1999 |
| ACCESSIONS | JC2478 |
| REFERENCE | Jose, P.J.; Adcock, I.M.; Griffiths-Johnson, D.A.; Berkman, N.; Wells, T.N.C.; Williams, T.J.; Power, C.A. |

```

#journal Biochem. Biophys. Res. Commun. (1994) 205:788-794
#title Eotaxin: Cloning of an eosinophil chemoattractant cytokine
#cross-references EMBL:X77603; NID:G602551; PID:G602552
#accession J02478
#molecule_type mRNA
#residues 1-96 ##label JOS
##cross-references EMBL:X77603; NID:G602551; PID:G602552
COMMENT This protein is identified as a potent eosinophil chemoattractant.
CLASSIFICATION #superfamily macrophage inflammatory protein
KEYWORDS glycoprotein
FEATURE
1-23 #domain signal sequence #status Predicted #label SIG\
24-96 #product eotaxin #status Predicted #label MAT\
93 #binding_site carbohydrate (Thr) (covalent) #status Predicted
SUMMARY
#length 96 #molecular-weight 10695 #checksum 7329
Query Match 93.8%; Score 91; DB 2; Length 96;
Best Local Similarity 100.0%; Pred. No. 3.65e-07;
Matches 11; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Db 71 ICADPKKKWQ 81
QY 2 ICADPKKKWQ 12
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RESULT 3
ENTRY #type complete
TITLE eotaxin precursor - guinea pig
ORGANISM #formal_name Cavia porcellus #common_name guinea pig
DATE 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 09-May-1997
ACCESSIONS 148099
REFERENCE
#authors Rothenberg, M.E.; Luster, A.D.; Lilly, C.M.; Drazen, J.M.;
#journal Leder, P.
#title J. Exp. Med. (1995) 181:1211-1216
#cross-references EMBL:U18941; NID:G687655; PID:G687656
#accession I48099
#status Preliminary; translated from GB/EMBL/DBJ
#molecule_type mRNA
#residues 1-96 ##label RES
##cross-references EMBL:U18941; NID:G687655; PID:G687656
CLASSIFICATION #superfamily macrophage inflammatory protein
SUMMARY
#length 96 #molecular-weight 10753 #checksum 7236
Query Match 93.8%; Score 91; DB 2; Length 96;
Best Local Similarity 100.0%; Pred. No. 3.65e-07;
Matches 11; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Db 71 ICADPKKKWQ 81
QY 2 ICADPKKKWQ 12
|||||
RESULT 4
ENTRY #type complete
TITLE monocyte chemoattractant protein 1 precursor - human
ALTERNATE_NAMES GDCF-1; glioma-derived monocyte chemotactic factor 1; MCAF; MCP-1; monocyte chemotactic factor 1; monocyte secretory protein; tumor-derived chemotactic factor
CONTAINS glioma-derived chemotactic factor 2 (GDCF-2)
ORGANISM #formal_name Homo sapiens #common_name man
DATE 20-Feb-1993 #sequence_revision 20-Feb-1993 #text_change 20-Mar-1998
ACCESSIONS A35474; A33476; S03339; I51841; A60299; A32300; A32396;
REFERENCE A34561; I57488; JC1096
#authors Shyy, Y.J.; Li, Y.S.; Kolattukudy, P.E.

```

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#journal Biochem. Biophys. Res. Commun. (1990) 169:346-351
#title Structure of human monocyte chemotactic protein gene and its
#cross-references MUID:90290466
#accession A35474
#molecule_type DNA
#residues 1-99 ##label SHY
##cross-references GB:M37719; NID:G187447; PID:G487124
REFERENCE A33476
#authors Rollins, B.J.; Stier, P.; Ernst, T.; Wong, G.G.
#journal Mol. Cell. Biol. (1989) 9:4687-4695
#title The human homolog of the JE gene encodes a monocyte secretory
#cross-references MUID:90097880
#accession A33476
#molecule_type mRNA
#residues 1-99 ##label ROL
##cross-references GB:M30816; GB:M31625; GB:M31626; NID:G188701;
REFERENCE S03339
#authors Yoshimura, T.; Yuhki, N.; Moore, S.K.; Appella, E.; Lerman,
#journal M.I.; Leonard, E.J.
#title FEBS Lett. (1989) 244:487-493
#title Human monocyte chemoattractant protein-1 (MCP-1). Full-length
#cross-references GB:X14768; NID:G34513; PID:G34514
#experimental_source glioma cell line U-105MG
REFERENCE I51841
#authors Yoshimura, T.; Leonard, E.J.
#journal Adv. Exp. Med. Biol. (1991) 305:47-56
#title Human monocyte chemoattractant protein-1 (MCP-1).
#cross-references MUID:92095166
#accession I51841
#status Preliminary; translated from GB/EMBL/DBJ
#molecule_type mRNA
#residues 1-99 ##label Y02
##cross-references GB:S71513; NID:G240867; PID:G240868
REFERENCE A60299
#authors Bottazzi, B.; Colotta, F.; Sica, A.; Nobili, N.; Mantovani,
#journal Int. J. Cancer (1990) 45:795-797
#title A chemoattractant expressed in human sarcoma cells
#cross-references MUID:92095166
#accession A60299
#status not compared with conceptual translation
#molecule_type mRNA
#residues 1-99 ##label BOT
REFERENCE A32300
#authors Furutani, Y.; Nomura, H.; Notake, M.; Oyama, Y.; Fukui, T.;
#journal Yamada, M.; Larsen, C.G.; Oppenheim, J.J.; Matsushima, K.
#title Biochem. Biophys. Res. Commun. (1989) 159:249-255
#title Cloning and sequencing of the cDNA for human monocyte
#cross-references MUID:89165862
#accession A32300
#status not compared with conceptual translation
#molecule_type mRNA
#residues 1-99 ##label FUR
##cross-references GB:M24545; NID:G187434; PID:G307163
REFERENCE A32396
#authors Robinson, E.A.; Yoshimura, T.; Leonard, E.J.; Tanaka, S.;
#journal Griffin, P.R.; Shabanowitz, J.; Hunt, D.F.; Appella, E.
#title Proc. Natl. Acad. Sci. U.S.A. (1989) 86:1850-1854
#title Complete amino acid sequence of a human monocyte

```

Scheit, K. H.
Biochem. Biophys. Res. Commun. (1994) 199:962-968
Porcine luteal cells express monocyte chemoattractant protein-1 (MCP-1): Analysis by polymerase chain reaction and cDNA cloning.
#cross-references MUID:94183284
#accession JC2136
#molecule_type mRNA
#residues 1-99 #label HOS

REFERENCE
S57497
Zach, O.
submitted to the EMBL Data Library, July 1994
#authors
#submission
#accession S57498
#status preliminary
#molecule_type mRNA
#residues 1-99 #label ZAC
#cross-references EMBL:X79416; NID:g872312; PID:g872313
#superfamily Macrophage inflammatory protein glycoprotein

KEYWORDS
#domain signal sequence #status predicted #label SIG\
#product monocyte chemoattractant protein-1 #status predicted #label MAT\
#binding_site carbohydrate (Asn) (covalent) #status predicted
#length 99 #molecular_weight 10976 #checksum 9768

SUMMARY

Query Match 90.7%; Score 88; DB 2; Length 99;
Best Local Similarity 75.0%; Pred. No. 1.68e-06;
Matches 9; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 73 EICAEPKQKWVQ 84
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QY 1 DICADPKKKWVQ 12

RESULT 6

ENTRY
TITLE
ORGANISM
DATE

A30209 #type complete
PDGF-inducible JE glycoprotein precursor - mouse
#formal_name Mus musculus #common_name house mouse
01-Dec-1989 #sequence_revision 01-Dec-1989 #text_change 01-May-1998

ACCESSIONS
A30209; A44771; A30861

REFERENCE
#authors
#journal
#title
#cross-references MUID:88234501

A30209
Rollins, B.J.; Morrison, E.D.; Stiles, C.D.
Proc. Natl. Acad. Sci. U.S.A. (1988) 85:3738-3742
Cloning and expression of JE, a gene inducible by platelet-derived growth factor and whose product has cytokine-like properties.

A30209
Rollins, B.J.; Morrison, E.D.; Stiles, C.D.
Proc. Natl. Acad. Sci. U.S.A. (1988) 85:3738-3742
Cloning and expression of JE, a gene inducible by platelet-derived growth factor and whose product has cytokine-like properties.

#cross-references MUID:88234501
#accession A30209
#molecule_type DNA
#residues 1-148 #label ROL
#cross-references GB:M19681; NID:g193486; PID:g387168; GB:M19682 A44771

REFERENCE
#authors
#journal
#title
#cross-references MUID:89093129

A44771
Kawahara, R.S.; Deuel, T.F.
J. Biol. Chem. (1989) 264:679-682
Platelet-derived growth factor-inducible gene JE is a member of a family of small inducible genes related to platelet factor 4

#cross-references MUID:89093129
#accession A44771
#molecule_type DNA; mRNA
#residues 1-148 #label KA2
#cross-references GB:J04467; NID:g193488; PID:g387169

GENETICS
#gene
#introns
CLASSIFICATION
KEYWORDS
FEATURE
126

JE
26/1; 65/2
#superfamily macrophage inflammatory protein cytokine; glycoprotein
#binding_site carbohydrate (Asn) (covalent) #status predicted

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chemoattractant, a putative mediator of cellular immune
reactions.
#cross-references MUID:89184525
#accession A32396
##molecule_type protein
##residues 'X',25-99 ##label ROB
REFERENCE
A34561
#authors Decock, B.; Conings, R.; Lenaerts, J.P.; Billiau, A.; Van
Damme, J.
#journal Biochem. Biophys. Res. Commun. (1990) 167:904-909
#title Identification of the monocyte chemoattractant protein from human
osteosarcoma cells and monocytes: detection of a novel
N-terminally processed form.
#cross-references MUID:90211336
#accession A34561
##molecule_type protein
##residues 29-33,'XX',36-52;82-92 ##label DEC
REFERENCE
157488
#authors Li, Y.S.; Shyy, Y.J.; Wright, J.G.; Valente, A.J.; Cornhill,
J.F.; Kolattukudy, P.E.
#journal Mol. Cell. Biochem. (1993) 126:61-68
#title The expression of monocyte chemoattractant protein (MCP-1) in
human vascular endothelium in vitro and in vivo.
#cross-references MUID:94150478
#accession 157488 translated from GB/EMBL/DBBJ
##status ##molecule_type mRNA
##residues 1-99 ##label LIY
##cross-references GB:S69738; NID:G545464; PID:G545465
JCI1096
REFERENCE
Ye, Q.N.; Su, G.F.; Yuan, Y.; Huang, C.F.
#authors Chinese J. Microbiol. Immunol. (1994) 14:29-32
#journal The PCR, cloning and sequencing of human monocyte
chemoattractant protein-1 (MCP-1) gene.
#accession JCI1096
##molecule_type mRNA
##residues 24-28,'Q',30-99 ##label YEQ
GENETICS
#gene GDB:SCYA2
#map-position 17q11.2-17q12
#cross-references GDB:125279; OMIM:158105
CLASSIFICATION
'superfamily macrophage inflammatory protein
cytokine; glycoprotein; inflammation; pyroglutamic acid
#domain signal sequence #status predicted #label SIG\
#product monocyte chemoattractant protein 1 #status
experimental #label MAT\
#product monocyte chemoattractant protein 1, short form
#status experimental #label MAT2\
#modified_site pyrrolidone carboxylic acid (Gln) (in
mature form) #status experimental\
#binding_site carbohydrate (Asn) (covalent) #status
predicted
#length 99 #molecular-weight 11025 #checksum 7984
SUMMARY
Query Match 91.8%; Score 89; DB 2; Length 99;
Best Local Similarity 83.3%; Pred. No. 1,01e-06;
Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 73 EICADPKQKWVQ 84
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Qy 1 DICADPKKKWVQ 12

RESULT 5
ENTRY ##molecule_type mRNA
TITLE #type complete
#authors monocyte chemoattractant protein-1 precursor - pig
#journal monocyte chemoattractant protein-1 precursor - pig
#title #formal_name Sus scrofa domestica #common_name domestic pig
#accession 30-Sep-1993 #sequence_revision 20-Aug-1994 #text_change
17-Mar-1999
ACCESSIONS JCI2136; S57498
JCI2136
REFERENCE
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#authors monocyte chemoattractant protein-1 precursor - pig
#journal monocyte chemoattractant protein-1 precursor - pig
#title #formal_name Sus scrofa domestica #common_name domestic pig
#accession 30-Sep-1993 #sequence_revision 20-Aug-1994 #text_change
17-Mar-1999
ACCESSIONS JCI2136; S57498
JCI2136

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SUMMARY          #length 148 #molecular-weight 16326 #checksum 5278
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Best Local Similarity 75.0%; Pred. No. 4.62e-06;
Matches          9; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 73 EVCADPKKQWVQ 84
   :||||| |||
QY 1 DICADPKKKWVQ 12

RESULT 7
ENTRY  A39296 #type complete
TITLE  monocyte chemoattractant protein 1 precursor - bovine
ALTERNATE_NAMES monocyte chemotactic factor 1; seminal plasma protein p6
ORGANISM #formal_name Bos primigenius taurus #common_name cattle
DATE 03-Aug-1992 #sequence_revision 03-Aug-1992 #text_change
31-Oct-1997
ACCESSIONS A39296; B39296
REFERENCE A39296
#authors Wempe, F.; Henschen, A.; Scheit, K.H.
#journal DNA Cell Biol. (1991) 10:671-679
#title Gene expression and cDNA cloning identified a major basic
protein constituent of bovine seminal plasma as bovine
monocyte-chemoattractant protein-1 (MCP-1).
#cross-references MUID:92096117
#accession A39296
#molecule_type mRNA
#residues 1-99 ##label WEM
#cross-references GB:M84602; GB:M85264; NID:g163394; PID:g163395
#accession B39296
#molecule_type protein
#residues 50-68,'X','70-74','X','76 ##label WE2
#experimental_source seminal vesicle
#keywords #superfamily macrophage inflammatory protein
glycoprotein
FEATURE 1-23
24-99
94 #domain signal sequence #status predicted #label SIG\
#product monocyte chemoattractant protein 1 #status
#predicted #label MAT\
#binding_site carbohydrate (Asn) (covalent) #status
predicted
#length 99 #molecular-weight 11114 #checksum 9401

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Best Local Similarity 75.0%; Pred. No. 1.26e-05;
Matches          9; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 73 ELCADPKKQWVQ 84
   :||||| |||
QY 1 DICADPKKKWVQ 12

RESULT 8
ENTRY  JC2336 #type complete
TITLE  monocyte chemoattractant protein-1 - bovine
ORGANISM #formal_name Bos primigenius indicus #common_name zebu cattle
DATE 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change
03-May-1996
ACCESSIONS JC2336
REFERENCE JC2336
#authors Wempe, F.; Kuhlmann, J.K.; Scheit, K.H.
#journal Biochem. Biophys. Res. Commun. (1994) 202:1272-1279
#title Characterization of the bovine monocyte chemoattractant
protein-1 gene.
#cross-references MUID:94338337
#accession JC2336
#molecule_type protein
#residues 1-99 ##label WEM
GENETICS MCP-1
#gene 26/1; 65/2
CLASSIFICATION #superfamily macrophage inflammatory protein

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SUMMARY          #length 99 #molecular-weight 11114 #checksum 9401
Query Match      86.6%; Score 84; DB 2; Length 99;
Best Local Similarity 75.0%; Pred. No. 1.26e-05;
Matches          9; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 73 ELCADPKKQWVQ 84
   :||||| |||
QY 1 DICADPKKKWVQ 12

RESULT 9
ENTRY  I46857 #type complete
TITLE  monocyte chemoattractant protein-1 - rabbit
ORGANISM #formal_name Oryctolagus cuniculus #common_name domestic
rabbit
DATE 14-Feb-1997 #sequence_revision 14-Feb-1997 #text_change
09-May-1997
ACCESSIONS I46857
REFERENCE I46857
#authors Yoshimura, T.; Yuhki, N.
#journal J. Immunol. (1991) 146:3483-3488
#title Neutrophil attractant/activation protein-1 and monocyte
chemoattractant protein-1 in rabbit: cDNA cloning and their
expression in spleen cells.
#cross-references MUID:91225489
#accession I46857
#status preliminary; translated from GB/EMBL/DBJ
#molecule_type mRNA
#residues 1-125 ##label YOS
#cross-references GB:M57440; NID:g165469; PID:g165470
CLASSIFICATION #superfamily macrophage inflammatory protein
SUMMARY #length 125 #molecular-weight 13776 #checksum 4498

Query Match      86.6%; Score 84; DB 2; Length 125;
Best Local Similarity 90.9%; Pred. No. 1.26e-05;
Matches         10; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Db 74 ICADPKKQWVQ 84
   :||||| |||
QY 2 ICADPKKKWVQ 12

RESULT 10
ENTRY  A54678 #type complete
TITLE  monocyte chemoattractant protein 3 precursor - human
ALTERNATE_NAMES monocyte chemoattractant protein MCP-3
ORGANISM #formal_name Homo sapiens #common_name man
DATE 28-Oct-1994 #sequence_revision 28-Oct-1994 #text_change
17-Mar-1999
ACCESSIONS A54678; JCI1478; S32222
REFERENCE A54678
#authors Oudenakker, G.; Fiten, P.; Nys, G.; Froyen, G.; Van Roy, N.;
Speleman, F.; Laureys, G.; Van Damme, J.
#journal Genomics (1994) 21:403-408
#title The human MCP-3 gene (SCYA7): cloning, sequence analysis, and
assignment to the C-C chemokine gene cluster on chromosome
17q11.2-q12.
#cross-references MUID:94375065
#accession A54678
#molecule_type DNA
#residues 1-109 ##label OPD
#cross-references GB:X72309
REFERENCE JCI1478
#authors Oudenakker, G.; Froyen, G.; Fiten, P.; Proost, P.; Van Damme,
J.
#journal Biochem. Biophys. Res. Commun. (1993) 191:535-542
#title Human monocyte chemotactic protein-3 (MCP-3): Molecular
cloning of the cDNA and comparison with other chemokines.
#cross-references MUID:93213290
#accession JCI1478
#molecule_type mRNA
#residues 1-109 ##label OP2

```



```

REFERENCE
#authors
S32222
Minty, A.; Chalon, P.; Guillemot, J.C.; Kaghad, M.; Liaunun,
P.; Magazin, M.; Miloux, B.; Minty, C.; Ramond, P.; Vita,
N.; Lucker, J.; Shire, D.; Ferrara, P.; Caput, D.
#submission
submitted to the EMBL Data Library, March 1993
#description
Molecular cloning of MCP-3: a human monocyte-derived monocyte
chemoattractant protein.
#accession
S32222
#molecule_type mRNA
#residues 1-109 ##label MIN
#cross-references EMBL:X71087; NID:g288396; PID:g288397.
COMMENT This protein induces proteinase secretion and chemotaxis by
macrophages and monocytes.

GENETICS
#gene
GDB:SCYA7; SCYA6; MCP-3
#cross-references GDB:138473; OMIM:158106
#map_position 17q11-17q12
#introns 36/1; 75/2
CLASSIFICATION
#superfamily macrophage inflammatory protein
KEYWORDS
cytokine; glycoprotein; inflammation
FEATURE
1-33
34-109
#domain signal sequence #status predicted #label SIG\
#product monocyte chemotactic protein 3 #status
predicted #label MAT\
#binding_site carbohydrate (Asn) (covalent) #status
predicted
SUMMARY
#length 109 #molecular-weight 12356 #checksum 1535
Query Match 84.5%; Score 82; DB 2; Length 109;
Best Local Similarity 75.0%; Pred. No. 3.39e-05;
Matches 9; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Db 83 EICADPTQKWVQ 94
:||||| ||||
QY 1 DICADPKKKWVQ 12

RESULT 11
ENTRY
TITLE
ALTERNATE_NAMES
ORGANISM
DATE
S07723 #type complete
immediate-early serum-responsive protein JE precursor - rat
monocyte chemoattractant protein-1
#formal_name Rattus norvegicus #common_name Norway rat
29-Jan-1993 #sequence_revision 29-Jan-1993 #text_change
13-Nov-1998
ACCESSIONS
S07723 JN0128
REFERENCE
Timmers, H.T.M.; Pronk, G.J.; Bos, J.L.; van der Eb, A.J.
Nucleic Acids Res. (1990) 18:23-34
#authors
#journal
#title
Analysis of the rat JE gene promoter identifies an AP-1
binding site essential for basal expression but not for TPA
induction.
#cross-references MUID:90174947
#accession S07723
#molecule_type DNA
#residues 1-148 ##label TIM
#cross-references EMBL:X17053; NID:g55530; PID:g55531
REFERENCE
JN0128
#authors
Yoshimura, T.; Takeya, M.; Takahashi, K.
Biochem. Biophys. Res. Commun. (1991) 174:504-509
#journal
#title
Molecular cloning of rat monocyte chemoattractant protein-1
(MCP-1) and its expression in rat spleen cells and tumor
cell lines.
#cross-references MUID:91128376
#accession JN0128
#molecule_type mRNA
#residues 1-148 ##label YOS
#cross-references GB:M5741; NID:g205333; PID:g205334
#experimental_source spleen cells
#note
the authors translated the codon GAA for residue 62 as
Lys and GCT for residue 63 as Leu

GENETICS
#introns 26/1; 65/2
CLASSIFICATION
#superfamily macrophage inflammatory protein
#domain signal sequence #status predicted #label SIG\
#product immediate-early serum-responsive protein JE
#status predicted #label MAT
#length 148 #molecular-weight 16460 #checksum 4876
SUMMARY
Query Match 84.5%; Score 82; DB 2; Length 148;
Best Local Similarity 75.0%; Pred. No. 3.39e-05;
Matches 9; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 73 EICADPNKEWVQ 84
:||||| ||||
QY 1 DICADPKKKWVQ 12

RESULT 12
ENTRY
TITLE
ORGANISM
DATE
JC2417 #type complete
monocyte chemoattractant protein-2 precursor - pig
#formal_name Sus scrofa domestica #common_name domestic pig
24-Feb-1995 #sequence_revision 24-Feb-1995 #text_change
17-Mar-1999
ACCESSIONS
JC2417
REFERENCE
Hosang, K.; Knoke, I.; Klaudiny, J.; Wempe, F.; Wuttke, W.;
Scheit, K.H.
Biochem. Biophys. Res. Commun. (1994) 205:148-153
#journal
#title
Porcine luteal cells express monocyte chemoattractant
protein-2 (MCP-2): Analysis by cDNA cloning and northern
analysis.
#cross-references MUID:95091716
#accession JC2417
#molecule_type mRNA
#residues 1-99 ##label HOS
#experimental_source corpus luteum
CLASSIFICATION
#superfamily macrophage inflammatory protein
FEATURE
1-23
24-99
#domain signal sequence #status predicted #label SIG\
#product monocyte chemoattractant protein-2 #status
predicted #label MAT
SUMMARY
#length 99 #molecular-weight 10903 #checksum 7556
Query Match 82.5%; Score 80; DB 2; Length 99;
Best Local Similarity 66.7%; Pred. No. 9.08e-05;
Matches 8; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Db 73 EVCADPQOKWVQ 84
:||||| ||||
QY 1 DICADPKKKWVQ 12

RESULT 13
ENTRY
TITLE
ORGANISM
DATE
I48148 #type complete
Neutrophil attractant protein-1 - guinea pig
#formal_name Cavia porcellus #common_name guinea pig
02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change
23-Feb-1997
ACCESSIONS
I48148
REFERENCE
Yoshimura, T.; Johnson, D.G.
J. Immunol. (1993) 151:6225-6236
#authors
#journal
#title
cDNA cloning and expression of guinea pig neutrophil
attractant protein-1 (NAP-1): NAP-1 is highly conserved in
guinea pig.
#cross-references MUID:94065176
#accession I48148
#status preliminary; translated from GB/EMBL/DBDJ
#molecule_type DNA
#residues 1-101 ##label RES
#cross-references GB:L04986; NID:g459764; PID:g459765
GENETICS
#gene
NAP-1
#superfamily beta-thromboglobulin
CLASSIFICATION
#length 101 #molecular-weight 11414 #checksum 2363

```

```

Query Match      82.5%; Score 80; DB 2; Length 101;
Best Local Similarity 75.0%; Pred. No. 9,08e-05;
Matches          9; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 75 QLCLDPKKKWQ 86
   :| | | | | | | |
QY 1 DICADPKKKWQ 12

RESULT 14
ENTRY 148147 #type complete
TITLE monocyte chemoattractant protein-1 - guinea pig
ORGANISM #formal_name Cavia porcellus #common_name guinea pig
DATE 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change
09-May-1997
ACCESSIONS I48147
REFERENCE I48147
#authors Yoshimura, T.
#journal J. Immunol. (1993) 150:5025-5032
#title CDNA cloning of guinea pig monocyte chemoattractant protein-1
and expression of the recombinant protein.
#cross-references MUID:93267104
#accession I48147
##status preliminary; translated from GB/EMBL/DBJ
##molecule_type mRNA
##residues 1-120 #label RES
##cross-references GB:L04985; NID:g349820; PID:g349821
GENETICS MCP-1
#gene #superfamily macrophage inflammatory protein
CLASSIFICATION #length 120 #molecular-weight 13741 #checksum 9252
SUMMARY

Query Match      82.5%; Score 80; DB 2; Length 120;
Best Local Similarity 66.7%; Pred. No. 9,08e-05;
Matches          8; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Db 71 EVCADPTQKKWQ 82
   :| | | | | | |
QY 1 DICADPKKKWQ 12

RESULT 15
ENTRY A46539 #type complete
TITLE monocyte chemoattractant cytokine RANTES precursor - mouse
ALTERNATE_NAMES Murantes
ORGANISM #formal_name Mus musculus #common_name house mouse
DATE 18-Jun-1993 #sequence_revision 16-Aug-1996 #text_change
22-Jan-1999
ACCESSIONS I48875; A46539; I48654; I56970
REFERENCE I48875
#authors Danoff, T.M.; Lallely, P.A.; Chang, Y.S.; Heeger, P.S.;
Neilson, E.G.
#journal J. Immunol. (1994) 152:1182-1189
#title Cloning, genomic organization, and chromosomal localization
of the Sca5 gene encoding the murine chemokine RANTES.
#cross-references MUID:94132613
#accession I48875
##status preliminary; translated from GB/EMBL/DBJ
##molecule_type DNA
##residues 1-91 #label DAN
##cross-references EMBL:U02298; NID:g460090; PID:g460091
REFERENCE A46539
#authors Schall, T.J.; Simpson, N.J.; Mak, J.Y.
#journal Eur. J. Immunol. (1992) 22:1477-1481
#title Molecular cloning and expression of the murine RANTES
cytokine: structural and functional conservation between
mouse and man.
#cross-references MUID:92289805
#accession A46539
##molecule_type mRNA
##residues 1-18, 'A', 20-91 #label SCH
##cross-references GB:S37648; NID:g250207; PID:g250208

```

```

##experimental_source macrophage cell line PUS-1.8
##note sequence extracted from NCBI backbone (NCBIN:106768,
NCBIP:106770)
REFERENCE I48654
#authors Shin, H.S.; Drysdale, B.E.; Shin, M.L.; Noble, P.W.; Fisher,
S.N.; Paznekas, W.A.
#journal Mol. Cell. Biol. (1994) 14:2914-2925
#title Definition of a lipopolysaccharide-responsive element in the
5'-flanking regions of Murantes and crg-2.
#cross-references MUID:94217689
#accession I48654
##status translation not shown; translated from GB/EMBL/DBJ
##molecule_type DNA
##residues 1-91 #label SHI
##cross-references EMBL:X70675; NID:g475205; PID:g475206
REFERENCE I56970
#authors Neilson, E.G.; Krensky, A.
#journal Kidney Int. (1992) 41:220-225
#title Isolation and characterization of cDNA from renal tubular
epithelium encoding murine Rantes: A small intercrine from
the Scy superfamily.
#cross-references MUID:92277990
#accession I56970
##status translated from GB/EMBL/DBJ
##molecule_type mRNA
##residues 1-40, 'E', 42-91 #label NEI
##cross-references GB:M77747; NID:g200649; PID:g200650
COMMENT This chemoattractant for monocytes but not neutrophils is an
immediate-early response protein to LPS stimulation.
GENETICS 26/1; 63/2
#introns
CLASSIFICATION #superfamily macrophage inflammatory protein
KEYWORDS chemotaxis; cytokine; immediate-early protein; inflammation
FEATURE #domain signal sequence #status predicted #label SIG\
1-23 #product monocyte chemoattractant cytokine RANTES
24-91 #status predicted #label MAT
SUMMARY #length 91 #molecular-weight 10071 #checksum 3010
Query Match      81.4%; Score 79; DB 1; Length 91;
Best Local Similarity 66.7%; Pred. No. 1,48e-04;
Matches          8; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

Db 71 QVCANPEKKWQ 82
   :| | | | | | |
QY 1 DICADPKKKWQ 12

Search completed: Fri Feb 4 17:56:48 2000
Job time : 27 secs.

```

W P S R L H
(TM)

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MPsrch_pp protein - protein database search, using Smith-Waterman algorithm
Run on: Fri Feb 4 18:09:53 2000; MasPar time 5.11 Seconds
Tabular output not generated. 128.201 Million cell updates/sec

Title: >US-09-150-813-73
Description: (1-12) from US09150813.pep
Perfect Score: 86
Sequence: 1 KACLNPAAPMVK 12
Scoring table: PAM 150
Gap 15
Searched: 179066 seqs, 54579741 residues
Post-processing: Minimum Match 0%
Listing first 45 summaries

Database: sptrembl9
1:sp_archaea 2:sp_bacteria 3:sp_fungi 4:sp_human
5:sp_invertebrate 6:sp_mammal 7:sp_mhc 8:sp_organelle
9:sp_phase 10:sp_plant 11:sp_rodent 12:sp_unclassified
13:sp_vertebrate 14:sp_virus
Statistics: Mean 23.076; Variance 25.745; scale 0.896

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

| SUMMARIES | | | | | Pred. No. | |
|------------|-------|-------------|--------|--------------------------|-----------|----|
| Result No. | Score | Query Match | Length | Description | DB | ID |
| 1 | 77 | 89.5 | 66 | PERMEABILITY FACTOR 2 | 4.43e-07 | |
| 2 | 73 | 84.9 | 103 | GRO. | 5.71e-06 | |
| 3 | 71 | 82.6 | 59 | MELANOMA GROWTH STIMUL | 2.01e-05 | |
| 4 | 60 | 69.8 | 377 | ALPHA-TUBULIN (FRAGMENT) | 1.52e-02 | |
| 5 | 58 | 67.4 | 331 | ALPHA-TUBULIN ISOTYPE | 4.76e-02 | |
| 6 | 58 | 67.4 | 359 | ALPHA-4-TUBULIN (FRAGM | 4.76e-02 | |
| 7 | 58 | 67.4 | 449 | ALPHA-TUBULIN (ALPHA-T | 4.76e-02 | |
| 8 | 58 | 67.4 | 449 | ALPHA-TUBULIN. | 4.76e-02 | |
| 9 | 58 | 67.4 | 450 | TUBULIN ALPHA CHAIN. | 4.76e-02 | |
| 10 | 58 | 67.4 | 451 | ALPHA-1 TUBULIN. | 4.76e-02 | |
| 11 | 58 | 67.4 | 451 | ALPHA-2-TUBULIN. | 4.76e-02 | |
| 12 | 58 | 67.4 | 451 | ALPHA-2 TUBULIN. | 4.76e-02 | |
| 13 | 58 | 67.4 | 451 | ALPHA-1-TUBULIN. | 4.76e-02 | |
| 14 | 58 | 67.4 | 451 | ALPHA-2 TUBULIN. | 4.76e-02 | |
| 15 | 58 | 67.4 | 451 | ALPHA-TUBULIN. | 4.76e-02 | |
| 16 | 58 | 67.4 | 614 | SUP35 (FRAGMENT). | 4.76e-02 | |
| 17 | 57 | 66.3 | 443 | ALPHA-3-TUBULIN (FRAGM | 8.36e-02 | |
| 18 | 56 | 65.1 | 449 | TBA-2 PROTEIN. | 1.46e-01 | |
| 19 | 56 | 65.1 | 449 | ALPHA-1 TUBULIN. | 1.46e-01 | |
| 20 | 56 | 65.1 | 852 | 1,4-ALPHA-GLUCAN BRANC | 1.46e-01 | |

| | | | | | | | |
|----|----|------|-------|----|--------|------------------------|----------|
| 21 | 55 | 64.0 | 381 | 5 | P92124 | ALPHA-TUBULIN (FRAGMEN | 2.54e-01 |
| 22 | 54 | 62.8 | 447 | 5 | Q19490 | F16D3.1 PROTEIN. | 4.38e-01 |
| 23 | 53 | 61.6 | 245 | 6 | Q77560 | PHOSDUCIN. | 7.52e-01 |
| 24 | 53 | 61.6 | 380 | 5 | P92120 | ALPHA-TUBULIN (FRAGMEN | 7.52e-01 |
| 25 | 53 | 61.6 | 444 | 5 | O18154 | T28D6.2 PROTEIN. | 7.52e-01 |
| 26 | 52 | 60.5 | 419 | 2 | P72650 | ZEAXANTHIN GLUCOSYL TR | 1.28e+00 |
| 27 | 51 | 59.3 | 115 | 2 | O83165 | HYPOTHETICAL 11.8 KD P | 2.17e+00 |
| 28 | 51 | 59.3 | 134 | 2 | O32305 | YIRG (FRAGMENT). | 2.17e+00 |
| 29 | 51 | 59.3 | 246 | 11 | O63420 | ROD PHOTORECEPTOR 1 (P | 2.17e+00 |
| 30 | 51 | 59.3 | 268 | 10 | O65707 | HYPOTHETICAL 30.0 KD P | 2.17e+00 |
| 31 | 51 | 59.3 | 1296 | 4 | Q13463 | PATCHED HOMOLOG (PTC). | 2.17e+00 |
| 32 | 51 | 59.3 | 1434 | 11 | Q61115 | PATCHED PROTEIN. | 2.17e+00 |
| 33 | 51 | 59.3 | 1442 | 13 | Q90693 | PATCHED. | 2.17e+00 |
| 34 | 51 | 59.3 | 1447 | 4 | Q13635 | K60 PROTEIN PRECURSOR. | 3.66e+00 |
| 35 | 50 | 58.1 | 104 | 13 | Q73912 | DNA-BINDING PROTEIN (F | 3.66e+00 |
| 36 | 50 | 58.1 | 380 | 10 | Q43568 | UNKNOWN FUNCTION. | 3.66e+00 |
| 37 | 50 | 58.1 | 501 | 2 | Q46447 | CISA. | 3.66e+00 |
| 38 | 50 | 58.1 | 535 | 4 | Q14544 | DNA-BINDING PROTEIN. | 3.66e+00 |
| 39 | 50 | 58.1 | 546 | 10 | Q40451 | HYPOTHETICAL 70.7 KD P | 3.66e+00 |
| 40 | 50 | 58.1 | 608 | 2 | O84657 | CYCLOSPORIN SYNTHETASE | 6.11e+00 |
| 41 | 50 | 58.1 | 15281 | 3 | Q09164 | PTC1 (FRAGMENT). | 6.11e+00 |
| 42 | 49 | 57.0 | 257 | 13 | Q42335 | GLYCOPROTEIN E. | 6.11e+00 |
| 43 | 49 | 57.0 | 522 | 14 | O91334 | HELICASE. | 6.11e+00 |
| 44 | 49 | 57.0 | 611 | 14 | Q65855 | RETINOID X RECEPTOR IN | 6.11e+00 |
| 45 | 49 | 57.0 | 2453 | 11 | Q60374 | | |

ALIGNMENTS

| RESULT 1 | | PRELIMINARY; | | PRT; | | 66 AA. | |
|---|---|---|--|------|--|--------|--|
| ID | Q28724 | | | | | | |
| AC | Q28724 | | | | | | |
| DT | 01-NOV-1996 | (TREMBLREL. 01, CREATED) | | | | | |
| DT | 01-NOV-1996 | (TREMBLREL. 01, LAST SEQUENCE UPDATE) | | | | | |
| DT | 01-NOV-1998 | (TREMBLREL. 08, LAST ANNOTATION UPDATE) | | | | | |
| DE | PERMEABILITY FACTOR 2 (FRAGMENT). | | | | | | |
| DE | RP22. | | | | | | |
| GN | ORYCTOLAGUS CUNICULUS (RABBIT). | | | | | | |
| OS | ORYCTOLAGUS CUNICULUS (RABBIT). | | | | | | |
| OC | EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; | | | | | | |
| OC | LAGOMORPHA; LEPORIDAE; ORYCTOLAGUS. | | | | | | |
| RC | SEQUENCE FROM N.A. | | | | | | |
| RC | STRAIN-NEW ZEALAND WHITE; | | | | | | |
| RX | MEDLINE; 95129899 | | | | | | |
| RA | JOHNSON M.C., GOODMAN R.B. II, KAJIKAWA O., WONG V.A., MONGOVIN S.M., | | | | | | |
| RA | MARTIN T.R.; | | | | | | |
| RT | "Cloning of two rabbit GRO homologues and their expression in | | | | | | |
| RT | alveolar macrophages." | | | | | | |
| RL | GENE 151:337-338(1994). | | | | | | |
| DR | EMBL; L28933; G455343; " | | | | | | |
| DR | PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1. | | | | | | |
| DR | PFAM; PF00048; 118; 1. | | | | | | |
| FT | NON_TER | | | | | | |
| SQ | SEQUENCE | 66 AA; 7102 MW; D4C4BC7D CRC32; | | | | | |
| Query Match 89.5%; Score 77; DB 6; Length 66; | | | | | | | |
| Best Local Similarity 90.9%; Pred. No. 4.43e-07; | | | | | | | |
| Matches 10; Conservative 1; Mismatches 0; Indels 0; Gaps 0; | | | | | | | |
| Db | 43 | ACLNPAAPMVK 53 | | | | | |
| QY | 2 | ACLNPAAPMVK 12 | | | | | |
| RESULT 2 | | | | | | | |
| ID | Q46678 | | | | | | |
| AC | Q46678 | | | | | | |
| DT | 01-JUN-1998 | (TREMBLREL. 06, CREATED) | | | | | |
| DT | 01-JUN-1998 | (TREMBLREL. 06, LAST SEQUENCE UPDATE) | | | | | |
| DT | 01-AUG-1998 | (TREMBLREL. 07, LAST ANNOTATION UPDATE) | | | | | |
| DE | GRO. | | | | | | |
| OS | OVIS ARIES (SHEEP). | | | | | | |
| OC | EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; | | | | | | |

OC ARTIODACTYLIA; RUMINANTIA; PECORA; BOVOIDEA; BOVIDAE; CAPRINAE; OVIS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RA YOSHIMURA T., MODI W.S.;
 RL SUBMITTED (MAR-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL: U95814; G2735499;
 SQ SEQUENCE 103 AA; 10820 MW; C34945B7 CRC32;

Query Match 84.9%; Score 73; DB 6; Length 103;
 Best Local Similarity 90.0%; Pred. No. 5.71e-06;
 Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Db 81 CLNPAAPMVK 90
 QY 3 CLNPASPVMK 12

RESULT 3
 ID O62764 PRELIMINARY; PRT; 59 AA.
 AC O62764;
 DT 01-AUG-1998 (TREMREL. 07, CREATED)
 DT 01-AUG-1998 (TREMREL. 07, LAST SEQUENCE UPDATE)
 DT 01-AUG-1998 (TREMREL. 07, LAST ANNOTATION UPDATE)
 DE MELANOMA GROWTH STIMULATORY ACTIVITY HOMOLOG (FRAGMENT).
 GN MSGA.
 OS EQUUS CABALLUS (HORSE).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC PERISSODACTYLIA; EQUIDAE; EQUUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE-SKIN;
 RA RIEDER S., CHECA-CORTES M.L., JOERG H., STRANZINGER G.;
 RL SUBMITTED (MAR-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL: AF053497; G303533;
 FT NON_TER 1
 SQ SEQUENCE 59 AA; 6344 MW; 0C5EA8CC CRC32;

Query Match 82.6%; Score 71; DB 6; Length 59;
 Best Local Similarity 72.7%; Pred. No. 2.01e-05;
 Matches 8; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 36 TCLNPEAPMVK 46
 QY 2 ACLNPASPVMK 12

RESULT 4
 ID P92126 PRELIMINARY; PRT; 377 AA.
 AC P92126;
 DT 01-MAY-1997 (TREMREL. 03, CREATED)
 DT 01-MAY-1997 (TREMREL. 03, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMREL. 08, LAST ANNOTATION UPDATE)
 DE ALPHA-TUBULIN (FRAGMENT).
 GN ATUB.
 OS NOSEMA LOCUSTAE.
 OC EUKARYOTA; MICROSPORIDIA; NOSEMATIDAE; NOSEMA.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN-ATCC 30860;
 RX MEDLINE; 97109817.
 RA KEELING P.J., DOOLITTLE W.F.;
 RT "Alpha-tubulin from early-diverging eukaryotic lineages and the evolution of the tubulin family.";
 RL MOL. BIOL. EVOL. 13:1297-1305(1996).
 DR EMBL: U66907; G1755092;
 DR PFAM: PF00091; tubulin; 1.
 FT NON_TER 1
 SQ SEQUENCE 377 AA; 41951 MW; 604D34D6 CRC32;

Query Match 69.8%; Score 60; DB 5; Length 377;
 Best Local Similarity 72.7%; Pred. No. 1.52e-02;
 Matches 8; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Db 265 ACNPESOMVK 275
 QY 2 ACLNPASPVMK 12

RESULT 5
 ID Q26047 PRELIMINARY; PRT; 331 AA.
 AC Q26047;
 DT 01-NOV-1996 (TREMREL. 01, CREATED)
 DT 01-NOV-1996 (TREMREL. 01, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMREL. 08, LAST ANNOTATION UPDATE)
 DE ALPHA-TUBULIN ISOTYPE 2 (FRAGMENT).
 GN PL<ALPHA>2.

OS PARACENTROTUS LIVIDUS (COMMON SEA URCHIN).
 OC EUKARYOTA; METAZOA; ECHINODERMATA; ECHINOZOA; EUECHINOIDEA;
 OC ECHINACEA; ECHINOIDA; ECHINIDAE; PARACENTROTUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 96015119.
 RA GIANGUZZA F., CASANO C., RAGUSA M.;
 RT "Alpha-tubulin marker gene of neural territory of sea urchin embryos detected by whole-mount in situ hybridization.";
 RL INT. J. DEV. BIOL. 39:477-483(1995).
 DR EMBL: S80438; G1245776;
 DR PFAM: PF00091; tubulin; 1.
 FT NON_TER 1
 SQ SEQUENCE 331 AA; 36955 MW; 1CCB86D1 CRC32;

Query Match 67.4%; Score 58; DB 5; Length 331;
 Best Local Similarity 58.3%; Pred. No. 4.76e-02;
 Matches 7; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 172 NACFEPANQMVK 183
 QY 1 KACLNPASPVMK 12

RESULT 6
 ID O01944 PRELIMINARY; PRT; 359 AA.
 AC O01944;
 DT 01-JUL-1997 (TREMREL. 04, CREATED)
 DT 01-JUL-1997 (TREMREL. 04, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMREL. 08, LAST ANNOTATION UPDATE)
 DE ALPHA-4-TUBULIN (FRAGMENT).
 OS GECARCINUS LATERALIS.
 OC EUKARYOTA; METAZOA; ARTHROPODA; CRUSTACEA; MALACOSTRACA;
 OC EUMALACOSTRACA; EUCARIDA; DECAPODA; PLEOCYEMATA; BRACHYURA;
 OC BRACHYRHYNCHA; GRAPSOIDEA; GECARCINIDAE; GECARCINUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE-REGENERATING LIMB BUD;
 RX MEDLINE; 97288098.
 RA VARADARAJ K., KUMARI S.S., SKINNER D.M.;
 RT "Molecular characterization of four members of the alpha-tubulin gene family of the Bermuda land crab Gecarcinus lateralis.";
 RL J. EXP. ZOOL. 278:63-77(1997).
 DR EMBL: U92648; G2098757;
 DR PFAM: PF00091; tubulin; 1.
 FT NON_TER 1
 SQ SEQUENCE 359 AA; 39873 MW; 862D6969 CRC32;

Query Match 67.4%; Score 58; DB 5; Length 359;
 Best Local Similarity 58.3%; Pred. No. 4.76e-02;
 Matches 7; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 201 NACFEPANQMVK 212
 QY 1 KACLNPASPVMK 12

RESULT 7

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ID Q13748 PRELIMINARY; PRT; 449 AA.
AC Q13748;
DT 01-NOV-1996 (TREMELREL. 01, CREATED)
DT 01-NOV-1998 (TREMELREL. 08, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMELREL. 08, LAST ANNOTATION UPDATE)
DE ALPHA TUBULIN (ALPHA-TUBULIN) (FRAGMENT).
GN TUBA2.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE; 98126445.
RA DODE C., WEIL D., LEVILLIERS J., CROZET F., CHAIB H., LEVI-ACOBAS F.,
RA GUILFORD P., PETIT C.;
RT "Sequence characterization of a newly identified human alpha-tubulin
RT gene (TUBA2).";
RL GENOMICS 47:125-130(1998).
RN [2]
RP SEQUENCE OF 352-449 FROM N.A.
RA BONALDO M., SU L., LAWTON L.N., SOARES M.B.;
RL SUBMITTED (JUL-1993) TO EMBL/GENBANK/DBBJ DATA BANKS.
DR EMBL; AF005392; G2843123;
DR EMBL; L11645; G306451;
FT NON_TER 1
SQ SEQUENCE 449 AA; 49828 MW; 85360775 CRC32;

Query Match 67.4%; Score 58; DB 4; Length 449;
Best Local Similarity 58.3%; Pred. No. 4.76e-02;
Matches 7; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 292 NACFEPANOMVK 303
QY 1 KACLNPASPMVK 12

RESULT 8 PRELIMINARY; PRT; 449 AA.
ID Q42271
AC Q42271;
DT 01-JAN-1998 (TREMELREL. 05, CREATED)
DT 01-JAN-1998 (TREMELREL. 05, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMELREL. 08, LAST ANNOTATION UPDATE)
DE ALPHA-TUBULIN
OS BRACHYDANIO RERIO (ZEBRAFISH) (ZEBRA DANIO).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; ACTINOPTERYGII; NEOPTERYGII;
OC TELEOSTEI; EUTELEOSTEI; OSTARIOPHYSI; CYPRINIFORMES; CYPRINOIDEA;
OC CYPRINIDAE; RASBORINAE; DANIO.
RN [1]
RP SEQUENCE FROM N.A.
RA BORMANN P., ZUMSTEG V.M., ROTH L.W.A., REINHARD E.;
RL J. NEUROSCI. RES. 0:0-0(1997).
DR EMBL; AF029250; G2599500;
DR PFAM; PF00091; tubulin; 1.
SQ SEQUENCE 449 AA; 49953 MW; E0BEF20C CRC32;

Query Match 67.4%; Score 58; DB 13; Length 449;
Best Local Similarity 58.3%; Pred. No. 4.76e-02;
Matches 7; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 293 NACFEPANOMVK 304
QY 1 KACLNPASPMVK 12

RESULT 9 PRELIMINARY; PRT; 450 AA.
ID Q76659
AC Q76659;
DT 01-NOV-1998 (TREMELREL. 08, CREATED)
DT 01-NOV-1998 (TREMELREL. 08, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMELREL. 08, LAST ANNOTATION UPDATE)
DE TUBULIN ALPHA CHAIN.
GN ATL.
OS ARTEMIA SANFRANCISCANA (BRINE SHRIMP) (ARTEMIA FRANCISCANA).
OC EUKARYOTA; METAZOA; ARTHROPODA; CRUSTACEA; BRANCHIOPODA; ANOSTRACA;
OC ARTEMIIDAE; ARTEMIA.
RN [1]
RP SEQUENCE FROM N.A.
RA ZHENG Y., ROY P., LIANG P., MACRAE T.H.;
RT "Cloning and sequencing of an alpha-tubulin cDNA from Artemia
RT franciscana.";
RL SUBMITTED (JUL-1998) TO EMBL/GENBANK/DBBJ DATA BANKS.
DR EMBL; AF078670; G3348122;
SQ SEQUENCE 450 AA; 49938 MW; 8B76A064 CRC32;

Query Match 67.4%; Score 58; DB 5; Length 450;
Best Local Similarity 58.3%; Pred. No. 4.76e-02;
Matches 7; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 293 NACFEPANOMVK 304
QY 1 KACLNPASPMVK 12

RESULT 10 PRELIMINARY; PRT; 451 AA.
ID Q94985
AC Q94985;
DT 01-FEB-1997 (TREMELREL. 02, CREATED)
DT 01-FEB-1997 (TREMELREL. 02, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMELREL. 08, LAST ANNOTATION UPDATE)
DE ALPHA-1 TUBULIN.
OS HIRUDO MEDICINALIS (MEDICINAL LEECH).
OC EUKARYOTA; METAZOA; ANNELIDA; CLITELLATA; HIRUDINIDA; HIRUDINEA;
OC ARYNCHOBDELLIDA; HIRUDINIFORMES; HIRUDINIDAE; HIRUDO.
RN [1]
RP SEQUENCE FROM N.A.
RA FEDOROV A.N., KORNEEV S.A., QUINN Z.A., BLACKSHAW S.E., DAVIES J.A.;
RL SUBMITTED (SEP-1996) TO EMBL/GENBANK/DBBJ DATA BANKS.
DR EMBL; U67675; G1527170;
DR EMBL; U67677; G1532191;
DR PFAM; PF00091; tubulin; 1.
SQ SEQUENCE 451 AA; 50123 MW; 831B07C4 CRC32;

Query Match 67.4%; Score 58; DB 5; Length 451;
Best Local Similarity 58.3%; Pred. No. 4.76e-02;
Matches 7; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 293 NACFEPANOMVK 304
QY 1 KACLNPASPMVK 12

RESULT 11 PRELIMINARY; PRT; 451 AA.
ID Q26595
AC Q26595;
DT 01-NOV-1996 (TREMELREL. 01, CREATED)
DT 01-NOV-1996 (TREMELREL. 01, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMELREL. 08, LAST ANNOTATION UPDATE)
DE ALPHA-TUBULIN.
GN SAT1.
OS SCHISTOSOMA MANSONI (BLOOD FLUKE).
OC EUKARYOTA; METAZOA; PLATYHELMINTHES; TREMATODA; DIGenea; STRIGEIDIDA;
OC SCHISTOSOMATOIDEA; SCHISTOSOMATIDAE; SCHISTOSOMA.
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE; 9228010.
RA WEBSTER P.J., SETA K.A., CHUNG S.C., MANSOUR T.E.;
RT "A cDNA encoding an alpha-tubulin from Schistosoma mansoni.";
RL MOL. BIOCHEM. PARASITOL. 51:169-170(1992).
DR EMBL; M80214; G161072;
DR PFAM; PF00091; tubulin; 1.
SQ SEQUENCE 451 AA; 50007 MW; B089A1DF CRC32;

Query Match 67.4%; Score 58; DB 5; Length 451;
Best Local Similarity 58.3%; Pred. No. 4.76e-02;
Matches 7; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

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Db 293 NACFEPANOMVK 304
QY 1 KACLNPASPMVK 12

RESULT 12
ID C01942 PRELIMINARY; PRT; 451 AA.
AC C01942;
DT 01-JUL-1997 (TREMBLREL. 04, CREATED)
DT 01-JUL-1997 (TREMBLREL. 04, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE ALPHA-2-TUBULIN.
OS GECARCINUS LATERALIS.
OC EUKARYOTA; METAZOA; ARTHROPODA; CRUSTACEA; MALACOSTRACA;
OC EUMALACOSTRACA; EUCARIDA; DECAPODA; PLEOCYEMATA; BRACHYURA;
OC BRACHYRHYNCHA; GRAPSOIDEA; GECARCINIDAE; GECARCINUS.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE-REGENERATING LIMB BUD;
RX MEDLINE; 97288098.
RA VARADARAJ K., KUMARI S.S., SKINNER D.M.;
RT "Molecular characterization of four members of the alpha-tubulin gene
family of the Bermuda land crab Gecarcinus lateralis.";
RL J. EXP. ZOOL. 278:63-77(1997).
DR EMBL; U92646; G2098753; -
DR PFAM; PF00091; tubulin; 1.
SQ SEQUENCE 451 AA; 50342 MW; 17EB1096 CRC32;

Query Match 67.4%; Score 58; DB 5; Length 451;
Best Local Similarity 58.3%; Pred. No. 4.76e-02;
Matches 7; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 293 NACFEPANOMVK 304
QY 1 KACLNPASPMVK 12

RESULT 13
ID Q94978 PRELIMINARY; PRT; 451 AA.
AC Q94978;
DT 01-FEB-1997 (TREMBLREL. 02, CREATED)
DT 01-FEB-1997 (TREMBLREL. 02, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE ALPHA-2 TUBULIN.
OS HIRUDO MEDICINALIS (MEDICINAL LEECH).
OC EUKARYOTA; METAZOA; ANNELIDA; CLITELLATA; HIRUDINIDA; HIRUDINEA;
OC ARYNCHOBDELLIDA; HIRUDINIFORMES; HIRUDINIDAE; HIRUDO.
RN [1]
RP SEQUENCE FROM N.A.
RA FEDOROV A.N., KORNEEV S.A., QUINN Z.A., BLACKSHAW S.E., DAVIES J.A.;
RL SUBMITTED (SEP-1996) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL; U57676; G1527172; -
DR EMBL; U67678; G1532193; -
DR PFAM; PF00091; tubulin; 1.
SQ SEQUENCE 451 AA; 50148 MW; 34321A1D CRC32;

Query Match 67.4%; Score 58; DB 5; Length 451;
Best Local Similarity 58.3%; Pred. No. 4.76e-02;
Matches 7; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 293 NACFEPANOMVK 304
QY 1 KACLNPASPMVK 12

RESULT 14
ID O01941 PRELIMINARY; PRT; 451 AA.
AC O01941;
DT 01-JUL-1997 (TREMBLREL. 04, CREATED)
DT 01-JUL-1997 (TREMBLREL. 04, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE ALPHA-1-TUBULIN.
OS GECARCINUS LATERALIS.

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OC EUKARYOTA; METAZOA; ARTHROPODA; CRUSTACEA; MALACOSTRACA;
OC EUMALACOSTRACA; EUCARIDA; DECAPODA; PLEOCYEMATA; BRACHYURA;
OC BRACHYRHYNCHA; GRAPSOIDEA; GECARCINIDAE; GECARCINUS.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE-REGENERATING LIMB BUD;
RX MEDLINE; 97288098.
RA VARADARAJ K., KUMARI S.S., SKINNER D.M.;
RT "Molecular characterization of four members of the alpha-tubulin gene
family of the Bermuda land crab Gecarcinus lateralis.";
RL J. EXP. ZOOL. 278:63-77(1997).
DR EMBL; U92645; G2098751; -
DR PFAM; PF00091; tubulin; 1.
SQ SEQUENCE 451 AA; 50179 MW; F926FE41 CRC32;

Query Match 67.4%; Score 58; DB 5; Length 451;
Best Local Similarity 58.3%; Pred. No. 4.76e-02;
Matches 7; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 293 NACFEPANOMVK 304
QY 1 KACLNPASPMVK 12

RESULT 15
ID Q27122 PRELIMINARY; PRT; 451 AA.
AC Q27122;
DT 01-NOV-1996 (TREMBLREL. 01, CREATED)
DT 01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE ALPHA-TUBULIN.
OS URECHIS CAUPO (INNKEEPER WORM) (SPOONWORM).
OC EUKARYOTA; METAZOA; ECHIURA; XENOPNEUSTA; URECHIDAE; URECHIS.
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE; 94155469.
RA ROSENTHAL E.;
RT "Sequence analysis of translationally controlled maternal mRNAs from
Urechis caupo.";
RL DEV. GENET. 14:485-491(1993).
RN [2]
RP SEQUENCE FROM N.A.
RA ROSENTHAL E.;
RL SUBMITTED (JUN-1995) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL; U30467; G942596; -
DR PFAM; PF00091; tubulin; 1.
SQ SEQUENCE 451 AA; 50089 MW; FE5EFF3 CRC32;

Query Match 67.4%; Score 58; DB 5; Length 451;
Best Local Similarity 58.3%; Pred. No. 4.76e-02;
Matches 7; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 293 NACFEPANOMVK 304
QY 1 KACLNPASPMVK 12

Search completed: Fri Feb 4 18:10:43 2000
Job time : 50 secs.

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MPSRLA
(TM)

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MPsrch_pp protein - protein database search, using Smith-Waterman algorithm
Run on: Fri Feb 4 18:15:31 2000; MasPar time 5.08 Seconds
128.999 Million cell updates/sec
Tabular output not generated.

Title: >US-09-150-813-74
Description: (1-12) from US09150813.pep
Perfect Score: 86
Sequence: 1 KACLNPAAPMVQ 12

Scoring table: PAM 150
Gap 15

Searched: 179066 seqs, 54579741 residues

Post-processing: Minimum Match 0%
Listing first 45 summaries

Database: sptrembl9
1:sp.archaea 2:sp.bacteria 3:sp.fungi 4:sp.human
5:sp.invertebrate 6:sp.mammal 7:sp.mhc 8:sp.organelle
9:sp.phage 10:sp.plant 11:sp.rodent 12:sp.unclassified
13:sp.vertebrate 14:sp.virus

Statistics: Mean 22.969; Variance 26.140; scale 0.879

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

| SUMMARIES | | | | | | | |
|------------|-------|---------------|-----------|----|------------------------|-----------|--|
| Result No. | Score | Query Match % | Length DB | ID | Description | Pred. No. | |
| 1 | 70 | 81.4 | 66 | 6 | PERMEABILITY FACTOR 2 | 4.94e-05 | |
| 2 | 66 | 76.7 | 103 | 6 | GRO. | 5.51e-04 | |
| 3 | 64 | 74.4 | 59 | 6 | MELANOMA GROWTH STIMUL | 1.80e-03 | |
| 4 | 57 | 66.3 | 852 | 10 | 1,4-ALPHA-GLUCAN BRANC | 9.70e-02 | |
| 5 | 53 | 61.6 | 377 | 5 | ALPHA-TUBULIN (FRAGMEN | 8.43e-01 | |
| 6 | 53 | 61.6 | 591 | 14 | GAG PRO POL POLYPROTEI | 8.43e-01 | |
| 7 | 53 | 61.6 | 859 | 14 | PR110. | 8.43e-01 | |
| 8 | 53 | 61.6 | 1754 | 14 | PR160. | 8.43e-01 | |
| 9 | 52 | 60.5 | 307 | 3 | HYPOTHETICAL 33.9 KD Z | 1.43e+00 | |
| 10 | 52 | 60.5 | 419 | 2 | ZEAXANTHIN GLUCOSYL TR | 1.43e+00 | |
| 11 | 51 | 59.3 | 268 | 10 | HYPOTHETICAL 30.0 KD P | 2.40e+00 | |
| 12 | 51 | 59.3 | 331 | 5 | ALPHA-TUBULIN ISOTYPE | 2.40e+00 | |
| 13 | 51 | 59.3 | 339 | 5 | ALPHA-TUBULIN (FRAGM | 2.40e+00 | |
| 14 | 51 | 59.3 | 449 | 4 | ALPHA-TUBULIN (ALPHA-T | 2.40e+00 | |
| 15 | 51 | 59.3 | 449 | 13 | ALPHA-TUBULIN. | 2.40e+00 | |
| 16 | 51 | 59.3 | 450 | 5 | TUBULIN ALPHA CHAIN. | 2.40e+00 | |
| 17 | 51 | 59.3 | 451 | 5 | ALPHA-1-TUBULIN. | 2.40e+00 | |
| 18 | 51 | 59.3 | 451 | 5 | ALPHA-2-TUBULIN. | 2.40e+00 | |
| 19 | 51 | 59.3 | 451 | 5 | ALPHA-1 TUBULIN. | 2.40e+00 | |
| 20 | 51 | 59.3 | 451 | 5 | ALPHA-TUBULIN. | 2.40e+00 | |

| | | | | | | | |
|----|----|------|------|----|--------|------------------------|----------|
| 21 | 51 | 59.3 | 451 | 5 | Q27122 | ALPHA-TUBULIN. | 2.40e+00 |
| 22 | 51 | 59.3 | 451 | 5 | Q94978 | ALPHA-2 TUBULIN. | 2.40e+00 |
| 23 | 51 | 59.3 | 614 | 13 | Q91855 | SUP35 (FRAGMENT). | 2.40e+00 |
| 24 | 51 | 59.3 | 1296 | 4 | Q13463 | PATCHED HOMOLOG (PTC). | 2.40e+00 |
| 25 | 51 | 59.3 | 1434 | 11 | Q61115 | PATCHED HOMOLOG. | 2.40e+00 |
| 26 | 51 | 59.3 | 1442 | 13 | Q90693 | PATCHED PROTEIN. | 2.40e+00 |
| 27 | 51 | 59.3 | 1447 | 4 | Q13635 | PATCHED. | 2.40e+00 |
| 28 | 50 | 58.1 | 331 | 14 | P88953 | ORF 62. | 4.00e+00 |
| 29 | 50 | 58.1 | 380 | 10 | Q43568 | DNA-BINDING PROTEIN (F | 4.00e+00 |
| 30 | 50 | 58.1 | 380 | 5 | Q92120 | ALPHA-TUBULIN (FRAGMEN | 4.00e+00 |
| 31 | 50 | 58.1 | 443 | 5 | Q01943 | ALPHA-3-TUBULIN (FRAGM | 4.00e+00 |
| 32 | 50 | 58.1 | 535 | 4 | Q14544 | C154. | 4.00e+00 |
| 33 | 50 | 58.1 | 546 | 10 | Q40451 | DNA-BINDING PROTEIN. | 4.00e+00 |
| 34 | 50 | 58.1 | 2610 | 5 | Q19482 | F15B9.7 PROTEIN. | 4.00e+00 |
| 35 | 50 | 58.1 | 2820 | 11 | P97526 | NEUROFIBROMIN. | 4.00e+00 |
| 36 | 49 | 57.0 | 135 | 5 | Q16915 | CYTOCROME P450 (FRAGM | 6.63e+00 |
| 37 | 49 | 57.0 | 257 | 13 | Q42335 | PTC1 (FRAGMENT). | 6.63e+00 |
| 38 | 49 | 57.0 | 449 | 5 | Q18688 | TBA-2 PROTEIN. | 6.63e+00 |
| 39 | 49 | 57.0 | 449 | 5 | Q17409 | ALPHA-1 TUBULIN. | 6.63e+00 |
| 40 | 49 | 57.0 | 522 | 14 | Q91334 | GLYCOPROTEIN E. | 6.63e+00 |
| 41 | 49 | 57.0 | 522 | 14 | Q41526 | CUS8. | 6.63e+00 |
| 42 | 49 | 57.0 | 611 | 14 | Q65855 | HELICASE. | 6.63e+00 |
| 43 | 49 | 57.0 | 4340 | 2 | Q30764 | POLYKETIDE SYNTHASE MO | 6.63e+00 |
| 44 | 48 | 55.8 | 830 | 10 | Q04864 | 1,4-ALPHA-GLUCAN BRANC | 1.09e+01 |
| 45 | 48 | 55.8 | 1763 | 14 | Q86913 | NON-STRUCTURAL PROTEIN | 1.09e+01 |

ALIGNMENTS

| RESULT | 1 | PRELIMINARY; | PRT; | 66 AA. |
|--|---|---------------|------|---------|
| ID | Q28724 | | | |
| AC | Q28724; | | | |
| DT | 01-NOV-1996 (TREMBREL. 01, CREATED) | | | |
| DT | 01-NOV-1998 (TREMBREL. 01, LAST SEQUENCE UPDATE) | | | |
| DT | 01-NOV-1998 (TREMBREL. 08, LAST ANNOTATION UPDATE) | | | |
| DE | PERMEABILITY FACTOR 2 (FRAGMENT). | | | |
| GN | RPF2. | | | |
| OS | ORYZOLAGUS CUNICULUS (RABBIT). | | | |
| OC | EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; | | | |
| OC | LAGOMORPHA; LEPORIDAE; ORYCTOLAGUS. | | | |
| RN | [1] | | | |
| RP | SEQUENCE FROM N.A. | | | |
| RC | STRAIN-NEW ZEALAND WHITE; | | | |
| RX | MEDLINE; 95129889. | | | |
| RA | JOHNSON M.C., GOODMAN R.B. II, KAJIKAWA O., WONG V.A., MONGOVIN S.M., | | | |
| RA | MARTIN T.R.; | | | |
| RT | "Cloning of two rabbit GRO homologues and their expression in | | | |
| RT | alveolar macrophages." | | | |
| RL | GENE 151:337-338(1994). | | | |
| DR | EMBL; L28933; G455343. | | | |
| DR | PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1. | | | |
| DR | PFAM; PF00048; il8; 1. | | | |
| FT | NON_TER | | | |
| SQ | SEQUENCE 66 AA; 7102 MW; D4C4BC7D CRC32; | | | |
| Query Match 81.4%; Score 70; DB 6; Length 66; | | | | |
| Best Local Similarity 90.08; Pred. No. 4.94e-05; | | | | |
| Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0; | | | | |
| Db | 43 | ACLNPAAPMV 52 | | |
| | | : | | |
| QY | 2 | ACLNPAAPMV 11 | | |
| RESULT | 2 | PRELIMINARY; | PRT; | 103 AA. |
| ID | Q46678 | | | |
| AC | Q46678; | | | |
| DT | 01-JUN-1998 (TREMBREL. 06, CREATED) | | | |
| DT | 01-JUN-1998 (TREMBREL. 06, LAST SEQUENCE UPDATE) | | | |
| DT | 01-AUG-1998 (TREMBREL. 07, LAST ANNOTATION UPDATE) | | | |
| DE | GRO. | | | |
| OS | OVIS ARIES (SHEEP). | | | |
| OC | EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; | | | |

OC ARTIODACTYLA; RUMINANTIA; PECORA; BOVOIDEA; BOVIDAE; CAPRINAE; OVIS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RA YOSHIMURA T., MODI W.S.;
 RL SUBMITTED (MAR-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL; U95814; G2735499;
 SQ SEQUENCE 103 AA; 10820 MW; C34945B7 CRC32;

Query Match 76.7%; Score 66; DB 6; Length 103;
 Best Local Similarity 88.9%; Pred. No. 5.51e-04;
 Matches 8; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Db 81 CLNPAAPMV 89
 QY 3 CLNPASPMV 11

RESULT 3
 ID O62764 PRELIMINARY; PRT; 59 AA.
 AC O62764;
 DT 01-AUG-1998 (TREMBLREL. 07, CREATED)
 DT 01-AUG-1998 (TREMBLREL. 07, LAST SEQUENCE UPDATE)
 DT 01-AUG-1998 (TREMBLREL. 07, LAST ANNOTATION UPDATE)
 DE MELANOMA GROWTH STIMULATORY ACTIVITY HOMOLOG (FRAGMENT).
 GN MGSA.
 OS EQUUS CABALLUS (HORSE).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC PERISSODACTYLA; EQUIDAE; EQUUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE-SKIN;
 RA RIEDER S., CHECA-CORTES M.L., JOERG H., STRANZINGER G.;
 RL SUBMITTED (MAR-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL; AF053497; G3033533;
 FT NON TER 1
 SQ SEQUENCE 59 AA; 6344 MW; 0C5EA8CC CRC32;

Query Match 74.4%; Score 64; DB 6; Length 59;
 Best Local Similarity 70.0%; Pred. No. 1.80e-03;
 Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 36 TCLNPEAPMV 45
 QY 2 ACLNPASPMV 11

RESULT 4
 ID Q08131 PRELIMINARY; PRT; 852 AA.
 AC Q08131;
 DT 01-NOV-1996 (TREMBLREL. 01, CREATED)
 DT 01-JAN-1998 (TREMBLREL. 05, LAST SEQUENCE UPDATE)
 DT 01-JAN-1999 (TREMBLREL. 09, LAST ANNOTATION UPDATE)
 DE (1,4-ALPHA-GLUCAN BRANCHING ENZYME PRECURSOR (EC 2.4.1.18)
 DE (1,4-ALPHA-GLUCAN BRANCHING ENZYME R-3) (STARCH BRANCHING ENZYME)
 DE (O-ENZYME).
 GN SBE
 OS MANIHOT ESCULENTA (CASSAVA) (MANIOT).
 OC EUKARYOTA; VIRIDIPANTAE; STREPTOPHYTA; EMBRYOPHYTA; TRACHEOPHYTA;
 OC EUPHYLLIPHYTES; SPERMATOPHYTA; MAGNOLIOPHYTA; EUDICOTYLEDONS; ROSIDAE;
 OC EUPHORBIALES; EUPHORBIACEAE; MANIHOT.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN-CV. M.COL 22; TISSUE-TUBEROUS ROOTS;
 RA SALEHUZZAMAN SNM., JACOBSEN E., VISSER R.G.F.;
 RL SUBMITTED (JAN-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [2]
 RP SEQUENCE OF 681-765 FROM N.A.
 RX MEDLINE; 93099233.
 RA SALEHUZZAMAN S.N., JACOBSEN E., VISSER R.G.F.;
 RT "Cloning, partial sequencing and expression of a cDNA coding for
 RT branching enzyme in cassava";
 RL PLANT MOL. BIOL. 20:809-819(1992).
 CC -!- CATALYTIC ACTIVITY: FORMATION OF 1,6-GLUCOSIDIC LINKAGES OF

CC GLYCOGEN.
 CC -!- SUBUNIT: MONOMER.
 CC -!- PATHWAY: THIRD STEP IN STARCH BIOSYNTHESIS.
 CC -!- SUBCELLULAR LOCATION: AMYLOPLAST.
 CC -!- SIMILARITY: BELONGS TO FAMILY 13 OF GLYCOSYL HYDROLASES, ALSO
 CC KNOWN AS THE ALPHA-AMYLASE FAMILY.
 DR EMBL; X77012; E96414;
 DR EMBL; X69714; G313295;
 DR PFAM; PF00128; alpha-amylase; 1.
 DR MENDEL; 13138; MANES; Sbel; 2.
 KW TRANSIT PEPTIDE; TRANSFERASE; GLYCOSYLTRANSFERASE;
 KW STARCH BIOSYNTHESIS.
 FT TRANSIT 1 74 POTENTIAL.
 FT CHAIN 75 852 1,4-ALPHA-GLUCAN BRANCHING ENZYME.
 SQ SEQUENCE 852 AA; 96684 MW; 7764CE83 CRC32;

Query Match 66.3%; Score 57; DB 10; Length 852;
 Best Local Similarity 58.3%; Pred. No. 9.70e-02;
 Matches 7; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

Db 572 MSCLTDASPMVD 583
 QY 1 KACLNPASPMVQ 12

RESULT 5
 ID P92126 PRELIMINARY; PRT; 377 AA.
 AC P92126;
 DT 01-MAY-1997 (TREMBLREL. 03, CREATED)
 DT 01-MAY-1997 (TREMBLREL. 03, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
 DE ALPHA-TUBULIN (FRAGMENT).
 GN ATUB.
 OS NOSEMA LOCUSTAE.
 OC EUKARYOTA; MICROSPORIDIA; NOSEMATIDAE; NOSEMA.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN-ATCC 30860;
 RX MEDLINE; 97109817.
 RA KEELING P.J., DOOLITTLE W.F.;
 RT "Alpha-tubulin from early-diverging eukaryotic lineages and the
 RT evolution of the tubulin family.";
 RL MOL. BIOL. EVOL. 13:1297-1305(1996).
 DR EMBL; U66907; G1755092;
 DR PFAM; PF00091; tubulin; 1.
 FT NON TER 1 377
 FT NON TER 377 377
 SQ SEQUENCE 377 AA; 41951 MW; 604D34D6 CRC32;

Query Match 61.6%; Score 53; DB 5; Length 377;
 Best Local Similarity 70.0%; Pred. No. 8.43e-01;
 Matches 7; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Db 265 ACNPESQMV 274
 QY 2 ACLNPASPMV 11

RESULT 6
 ID Q83391 PRELIMINARY; PRT; 591 AA.
 AC Q83391;
 DT 01-NOV-1996 (TREMBLREL. 01, CREATED)
 DT 01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)
 DT 01-JAN-1999 (TREMBLREL. 09, LAST ANNOTATION UPDATE)
 DE GAG PRO POL POLYPROTEIN.
 DE GAG PRO POL.
 OS MOUSE MAMMARY TUMOR VIRUS.
 OC VIRUSES; RETROVIRUSES; RETROVIRIDAE; MAMMALIAN TYPE B RETROVIRUSES.
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 87112944.
 RA MOORE R., DIXON M., SMITH R., PETERS G., DICKSON C.;
 RT "Complete nucleotide sequence of a Milk-transmitted mouse mammary

Sat Feb 5 12:05:12 2000

RT tumor viurs: two frameshift suppression events are required for
translation of gag and pol.;
RL J. VIROL. 61:480-490(1987).

[2]
RP SEQUENCE FROM N.A.
RA NISHIO M., XU L., SASAKI M., HAGA S., OKUMOTO M., MORI N.,
SARKAR N.H., ACHA-ORBEA H., ENAMI J., IMAI S.;
"Complete Nucleotide Sequence of mouse mammary tumor virus from JYG
chinese wild mice: absence of bacterial insertion sequences in the
cloned viral gag gene";
RL BREAST CANCER 1:89-94(1994).
DR EMBL; D16249; D1004281; -.
DR PFAM; PF00098; zf-CCHC; 1.
DR PFAM; PF00607; gag-P24; 1.
KW POLYPROTEIN.
SQ SEQUENCE 591 AA; 66268 MW; 176E719A CRC32;

Query Match 61.6%; Score 53; DB 14; Length 591;
Best Local Similarity 41.7%; Pred. No. 8.43e-01;
Matches 5; Conservative 7; Mismatches 0; Indels 0; Gaps 0;

Db 481 RACLDASPAVVQ 492
QY 1 KACLNPASPMVQ 12

RESULT 7
ID O92804 PRELIMINARY; PRT; 859 AA.
AC O92804;
DT 01-NOV-1998 (TREMBLREL. 08, CREATED)
DT 01-NOV-1998 (TREMBLREL. 08, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE PR110.
DE GAG-PRO.
GN GAG-PRO.
OS MOUSE MAMMARY TUMOR VIRUS.
OC VIRUSES; RETROID VIRUSES; RETROVIRIDAE; MAMMALIAN TYPE B RETROVIRUSES.
RN [1]
RP SEQUENCE FROM N.A.
RA PETROPOULOS C.J.;
RT "Appendix 2: Retroviral taxonomy, protein structure, sequences, and
genetic maps.";
RL (IN) COFFIN J.M. (EDS.); RETROVIRUSES:757-757;
RL COLD SPRING HARBOR LABORATORY PRESS, NY, USA (1997).
[2]
RP SEQUENCE FROM N.A.
RA CHAPPEY C.;
RL SUBMITTED (NOV-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL; AF033807; G2801454; -.
FT CHAIN 99 194 PP21 XX.
FT CHAIN 195 227 P3.
FT CHAIN 228 252 P8.
FT CHAIN 252 495 P27 CA.
FT CHAIN 496 744 P14 NC.
FT CHAIN 744 859 P30DU-P13PR-RT-IN.
SQ SEQUENCE 859 AA; 95277 MW; C40C054D CRC32;

Query Match 61.6%; Score 53; DB 14; Length 859;
Best Local Similarity 41.7%; Pred. No. 8.43e-01;
Matches 5; Conservative 7; Mismatches 0; Indels 0; Gaps 0;

Db 480 RACLDASPAVVQ 491
QY 1 KACLNPASPMVQ 12

RESULT 8
ID O56220 PRELIMINARY; PRT; 1754 AA.
AC O56220;
DT 01-JUN-1998 (TREMBLREL. 06, CREATED)
DT 01-JUN-1998 (TREMBLREL. 06, LAST SEQUENCE UPDATE)
DT 01-AUG-1998 (TREMBLREL. 07, LAST ANNOTATION UPDATE)
DE PR160.
GN GAG-PRO-POL.

OS MOUSE MAMMARY TUMOR VIRUS.
OC VIRUSES; RETROID VIRUSES; RETROVIRIDAE; MAMMALIAN TYPE B RETROVIRUSES.
RN [1]
RP SEQUENCE FROM N.A.
RA PETROPOULOS C.J.;
RL (IN) COFFIN J.M. (EDS.); RETROVIRUSES:757-757;
RL COLD SPRING HARBOR LABORATORY PRESS, NY, USA (1997).
[2]
RP SEQUENCE FROM N.A.

RA CHAPPEY C.;
RL SUBMITTED (NOV-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL; AF033807; G2801455; -.
FT CHAIN 99 194 PP21 XX.
FT CHAIN 195 227 P3.
FT CHAIN 228 252 P8.
FT CHAIN 252 495 P27 CA.
FT CHAIN 496 744 P14 NC.
FT CHAIN 744 1754 P30DU-P13PR-RT-IN.
SQ SEQUENCE 1754 AA; 196983 MW; 9BA7E7E1 CRC32;

Query Match 61.6%; Score 53; DB 14; Length 1754;
Best Local Similarity 41.7%; Pred. No. 8.43e-01;
Matches 5; Conservative 7; Mismatches 0; Indels 0; Gaps 0;

Db 480 RACLDASPAVVQ 491
QY 1 KACLNPASPMVQ 12

RESULT 9
ID O13713 PRELIMINARY; PRT; 307 AA.
AC O13713;
DT 01-JUN-1998 (TREMBLREL. 06, CREATED)
DT 01-JUN-1998 (TREMBLREL. 06, LAST SEQUENCE UPDATE)
DT 01-JUN-1998 (TREMBLREL. 06, LAST ANNOTATION UPDATE)
DE HYPOTHETICAL 33.9 KD ZINC FINGER PROTEIN C14C4.06C IN CHROMOSOME I.
GN SPAC14C4.06C.
OS SCHIZOSACCHAROMYCES POMBE (FISSION YEAST).
OC EUKARYOTA; FUNGI; ASCOMYCOTA; ARCHIASCOMYCETES;
OC SCHIZOSACCHAROMYCETALES; SCHIZOSACCHAROMYCETACEAE;
OC SCHIZOSACCHAROMYCES.
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN-972;
RA DEVLIN K., CHURCHER C.M., BARRELL B.G., RAJANDREAM M.A., WOOD V.;
RL SUBMITTED (AUG-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
CC -!- SUBCELLULAR LOCATION: NUCLEAR (POTENTIAL).
DR EMBL; 298596; E334264; -.
KW HYPOTHETICAL PROTEIN; NUCLEAR PROTEIN; DNA-BINDING; ZINC-FINGER;
KW METAL-BINDING.
FT ZN_FING 184 199 C3H-TYPE.
FT SEQUENCE 307 AA; 33929 MW; 7B5BE6D8 CRC32;

Query Match 60.5%; Score 52; DB 3; Length 307;
Best Local Similarity 50.0%; Pred. No. 1.43e+00;
Matches 6; Conservative 3; Mismatches 3; Indels 0; Gaps 0;

Db 257 KPCLNPAACRFH 268
QY 1 KACLNPASPMVQ 12

RESULT 10
ID P72650 PRELIMINARY; PRT; 419 AA.
AC P72650;
DT 01-FEB-1997 (TREMBLREL. 02, CREATED)
DT 01-FEB-1997 (TREMBLREL. 02, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE ZEAXANTHIN GLUCOSYL TRANSFERASE.
GN CRYX.
OS SYNECHOCYSTIS SP. (STRAIN PCC 6803).
OC BACTERIA; CYANOBACTERIA; CHROCOCCALES; SYNECHOCYSTIS.
RN [1]

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RP SEQUENCE FROM N.A.
RC STRAIN-PCC6803;
RA TABATA S.;
RN SUBMITTED (JUN-1996) TO EMBL/GENBANK/DBJ DATA BANKS.
[2]
RP SEQUENCE FROM N.A.
RC STRAIN-PCC6803;
RX MEDLINE: 97061201.
RA KANEKO T., SATO S., KOTANI H., TANAKA A., ASAMIZU E., NAKAMURA Y.,
RA MIYAJIMA N., HIROSAWA M., SUGIURA M., SASAMOTO S., KIMURA T.,
RA HOSOUCHI T., MATSUNO A., MURAKI A., NAKAZAKI N., NARUO K., OKUMURA S.,
RA SHIMPO S., TAKEUCHI C., WADA T., WATANABE A., YAMADA M., YASUDA M.,
RA TABATA S.;
RT "Sequence analysis of the genome of the unicellular cyanobacterium
RT Synechocystis sp. strain PCC6803. II. Sequence determination of the
RT entire genome and assignment of potential protein-coding regions.";
RL DNA RES. 3:109-136(1996).
DR EMBL; D90899; D1017385; -.
DR PFAM; PF00201; UDPGT; 1.
KW TRANSFERASE.
SQ SEQUENCE 419 AA; 45330 MW; 4208CF23 CRC32;

Query Match 60.5%; Score 52; DB 2; Length 419;
Best Local Similarity 77.8%; Pred. No. 1.43e+00;
Matches 7; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Db 331 CLNNAVPMV 339
   ||| |||
QY 3 CLNPASPMV 11

RESULT 11
ID O65707 PRELIMINARY; PRT; 268 AA.
AC O65707;
DT 01-AUG-1998 (TREMBLREL. 07, CREATED)
DT 01-AUG-1998 (TREMBLREL. 07, LAST SEQUENCE UPDATE)
DT 01-AUG-1998 (TREMBLREL. 07, LAST SEQUENCE UPDATE)
DE HYPOTHETICAL 30.0 KD PROTEIN.
GS TSK18.140.
OS ARABIDOPSIS THALIANA (MOUSE-EAR CRESS).
OC EUKARYOTA; VIRIDIPHYTES; STREPTOPHYTES; EMBRYOPHYTES; TRACHEOPHYTES;
OC EUPHYLOPHYTES; SPERMATOPHYTES; MAGNOLIOPHYTES; EUDICOTYLEDONS; ROSIDAE;
OC CAPPARALES; BRASSICACEAE; ARABIDOPSIS.
RN [1]
RP SEQUENCE FROM N.A.
RA BEVAN M., VAN DER SCHUEREN J., CHUANG Y-J., VOET M., ROBBEN J.,
RA VOLCKAERT G., BANGROFT I., MEWES H.W., MAYER K.F.X., SCHUELLER C.;
RL SUBMITTED (APR-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [2]
RP SEQUENCE FROM N.A.
RA EU ARABIDOPSIS SEQUENCING PROJECT;
RL SUBMITTED (APR-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL; AL022580; E1287627; -.
KW HYPOTHETICAL PROTEIN.
SQ SEQUENCE 268 AA; 29999 MW; DE86BCE CRC32;

Query Match 59.3%; Score 51; DB 10; Length 268;
Best Local Similarity 50.0%; Pred. No. 2.40e+00;
Matches 5; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

Db 113 KSLAPNPL 122
   ||| |||
QY 1 KALNPASPM 10

RESULT 12
ID Q26047 PRELIMINARY; PRT; 331 AA.
AC Q26047;
DT 01-NOV-1996 (TREMBLREL. 01, CREATED)
DT 01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)
DT 01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)
DE ALPHA-TUBULIN ISOTYPE 2 (FRAGMENT).
GN PL-ALPHA-2.

OS PARACENTROTUS LIVIDUS (COMMON SEA URCHIN).
OC EUKARYOTA; METAZOA; ECHINODERMATA; ECHINOZOA; ECHINOIDEA; EUECHINOIDEA;
OC ECHINACEA; ECHINOIDA; ECHINIDAE; PARACENTROTUS.
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE: 96015119.
RA GIANGUZZA F., CASANO C., RAGUSA M.;
RT "Alpha-tubulin marker gene of neutral territory of sea urchin embryos
RT detected by whole-mount in situ hybridization.";
RL INT. J. DEV. BIOL. 39:477-483(1995).
DR EMBL; S80438; G1245776; -.
DR PFAM; PF00091; tubulin; 1.
FT NON_TER 1
FT NON_TER 331
SQ SEQUENCE 331 AA; 36955 MW; 1CCB86D1 CRC32;

Query Match 59.3%; Score 51; DB 5; Length 331;
Best Local Similarity 54.5%; Pred. No. 2.40e+00;
Matches 6; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 172 NACFEPANOMV 182
   ||| |||
QY 1 KALNPASPMV 11

RESULT 13
ID O01944 PRELIMINARY; PRT; 359 AA.
AC O01944;
DT 01-JUL-1997 (TREMBLREL. 04, CREATED)
DT 01-JUL-1997 (TREMBLREL. 04, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE ALPHA-4-TUBULIN (FRAGMENT).
OS GECARCINUS LATERALIS.
OC EUKARYOTA; METAZOA; ARTHROPODA; CRUSTACEA; MALACOSTRACA;
OC EUMALACOSTRACA; EUCARIDA; DECAPODA; PLEOCYEMATA; BRACHYURA;
OC BRACHYRINCHA; GRAPSOIDEA; GECARCINIDAE; GECARCINUS.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE-REGENERATING LIMB BUD;
RX MEDLINE: 97288098.
RA VARADARAJ K., KUMARI S.S., SKINNER D.M.;
RT "Molecular characterization of four members of the alpha-tubulin gene
RT family of the Bermuda land crab Gecarcinus lateralis.";
RL J. EXP. ZOOL. 278:63-77(1997).
DR EMBL; U92648; G2098757; -.
DR PFAM; PF00091; tubulin; 1.
FT NON_TER 1
FT NON_TER 359
SQ SEQUENCE 359 AA; 39873 MW; 862D6969 CRC32;

Query Match 59.3%; Score 51; DB 5; Length 359;
Best Local Similarity 54.5%; Pred. No. 2.40e+00;
Matches 6; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 201 NACFEPANOMV 211
   ||| |||
QY 1 KALNPASPMV 11

RESULT 14
ID Q13748 PRELIMINARY; PRT; 449 AA.
AC Q13748;
DT 01-NOV-1996 (TREMBLREL. 01, CREATED)
DT 01-NOV-1998 (TREMBLREL. 08, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST SEQUENCE UPDATE)
DE ALPHA TUBULIN (ALPHA-TUBULIN) (FRAGMENT).
GN TUBA2.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE: 98126445.
RA DODE C., WEIL D., LEVILLIERS J., CROZET F., CHAIB H., LEVI-ACOBAS F.,

```

RA GUILFORD P., PETIT C.;
 RT "Sequence characterization of a newly identified human alpha-tubulin
 gene (TUBA2)".
 RL GENOMICS 47:125-130(1998).

RN [2]
 RP SEQUENCE OF 352-449 FROM N.A.
 RA BONALDO M., SU L., LAWTON L.N., SOARES M.B.;
 RL SUBMITTED (JUL-1993) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL; AF005392; G2843123; -
 DR EMBL; L11645; G306451; -
 FT NON_TER 1
 SQ SEQUENCE 449 AA; 49828 MW; 85360775 CRC32;

Query Match 59.3%; Score 51; DB 4; Length 449;
 Best Local Similarity 54.5%; Pred. No. 2.40e+00;
 Matches 6; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

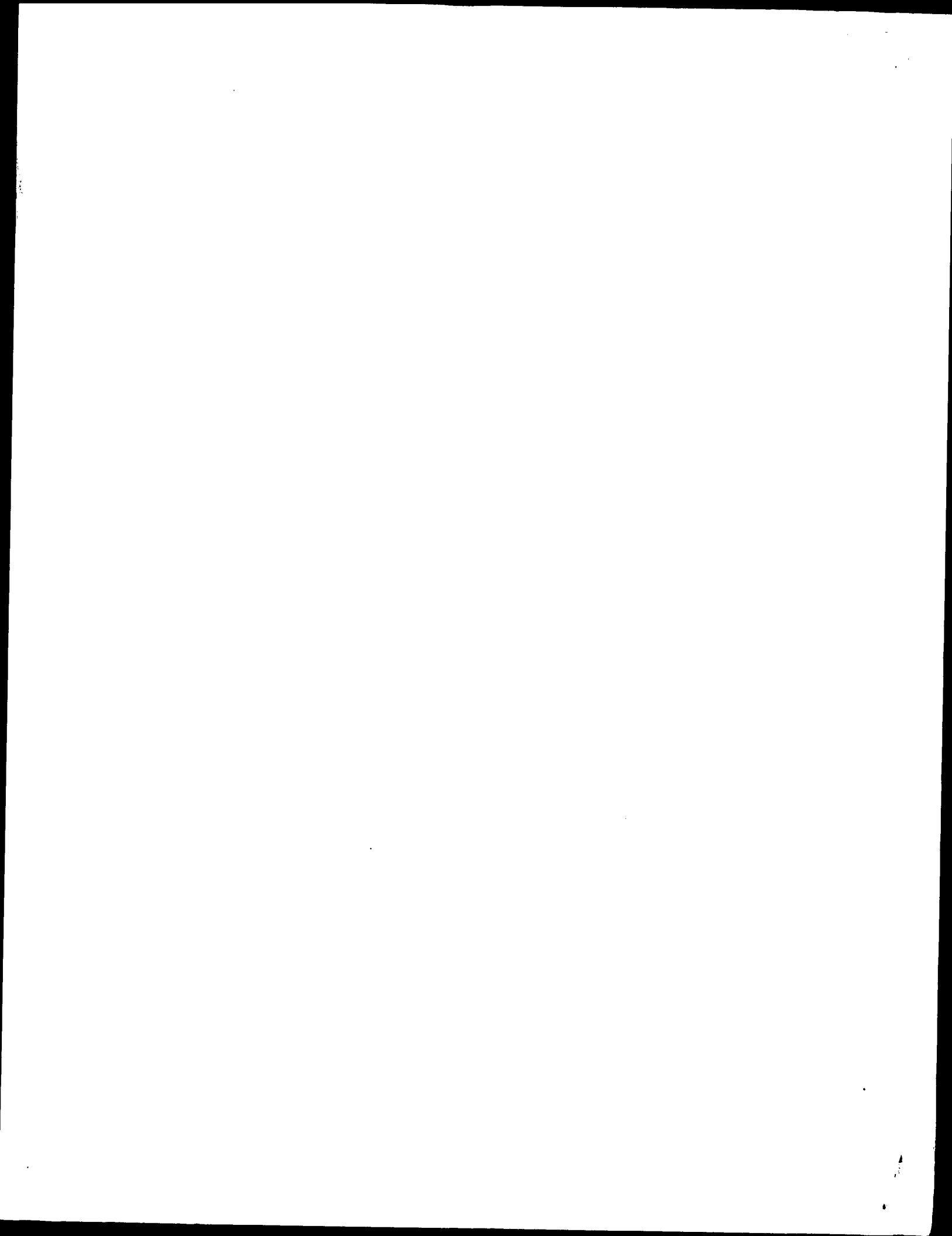
Db 292 NACFEPANQMV 302
 :||:|:|:|
 QY 1 KACLNPASPMV 11

RESULT 15
 ID 042271 PRELIMINARY; PRT; 449 AA.
 AC 042271;
 DT 01-JAN-1998 (TREMBLEL. 05, CREATED)
 DT 01-JAN-1998 (TREMBLEL. 05, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMBLEL. 08, LAST ANNOTATION UPDATE)
 DE ALPHA-TUBULIN.
 OS BRACHYDANTIO RERIO (ZEBRAFISH) (ZEBRA DANIO).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; ACTINOPTERYGII; NEOPTERYGII;
 OC TELEOSTEI; EUTELEOSTEI; OSTARIOPHYSI; CYPRINIFORMES; CYPRINOIDEA;
 OC CYPRINIDAE; RASBORINAE; DANIO.
 RN [1]
 RP SEQUENCE FROM N.A.
 RA BORMANN P., ZUMSTEG V.M., ROTH L.W.A., REINHARD E.;
 RL J. NEUROSCI. RES. 0:0-0(1997).
 DR EMBL; AF029250; G2599500; -
 DR PFAM; PF00091; tubulin.1.
 SQ SEQUENCE 449 AA; 49953 MW; E0BEF20C CRC32;

Query Match 59.3%; Score 51; DB 13; Length 449;
 Best Local Similarity 54.5%; Pred. No. 2.40e+00;
 Matches 6; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 293 NACFEPANQMV 303
 :||:|:|:|
 QY 1 KACLNPASPMV 11

Search completed: Fri Feb 4 18:16:34 2000
 Job time : 63 secs.



W O R L D

(TM)

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MPsrch_pp protein - protein database search, using Smith-Waterman algorithm
Run on: Fri Feb 4 16:58:12 2000; Maspar time 3.49 Seconds
60.986 Million cell updates/sec
Tabular output not generated.

Title: >US-09-150-813-7
Description: (1-10) from US09150813.pep
Perfect Score: 84
Sequence: 1 CADPKQKWQ 10
Scoring table: PAM 150
Gap 15

Searched: 170751 seqs, 21266608 residues
Post-processing: Minimum Match 0%
Listing first 45 summaries

Database: a-genseq35
1:part1 2:part2 3:part3 4:part4 5:part5 6:part6 7:part7
8:part8 9:part9 10:part10 11:part11 12:part12 13:part13
14:part14 15:part15 16:part16 17:part17 18:part18
19:part19 20:part20 21:part21 22:part22 23:part23
24:part24 25:part25 26:part26 27:part27 28:part28
29:part29 30:part30 31:part31 32:part32 33:part33
34:part34 35:part35 36:part36 37:part37 38:part38
39:part39

Statistics: Mean 17.907; Variance 61.592; scale 0.291

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

| SUMMARIES | | | | | |
|------------|-------|---------------|----------------------------|--------|-----------|
| Result No. | Score | Query Match % | Description | ID | Pred. No. |
| 1 | 84 | 100.0 | Monocyte chemoattractant | W13598 | 1.06e-01 |
| 2 | 84 | 100.0 | Monocyte chemoattractant | W13599 | 1.06e-01 |
| 3 | 84 | 100.0 | Monocyte chemoattractant | W13597 | 1.06e-01 |
| 4 | 84 | 100.0 | Des(2-8) MCP-1. | R87678 | 1.06e-01 |
| 5 | 84 | 100.0 | Monocyte chemoattractant | W13596 | 1.06e-01 |
| 6 | 84 | 100.0 | (28-Asp) MCP-1. | R87675 | 1.06e-01 |
| 7 | 84 | 100.0 | Sequence of bovine P6 | R26580 | 1.06e-01 |
| 8 | 84 | 100.0 | Monocyte chemoattractant | W09374 | 1.06e-01 |
| 9 | 84 | 100.0 | (3-Ala) MCP-1. | R87677 | 1.06e-01 |
| 10 | 84 | 100.0 | Peptide from human gl | P90292 | 1.06e-01 |
| 11 | 84 | 100.0 | Macrophage chemoattractant | W40175 | 1.06e-01 |
| 12 | 84 | 100.0 | (24-Arg) MCP-1. | R87676 | 1.06e-01 |
| 13 | 84 | 100.0 | Monocyte chemoattractant | R87680 | 1.06e-01 |
| 14 | 84 | 100.0 | MCP. | R26660 | 1.06e-01 |
| 15 | 84 | 100.0 | Sense MCP-1. | R53398 | 1.06e-01 |
| 16 | 84 | 100.0 | Mature human monocyte | W11131 | 1.06e-01 |

| | | | | | | | |
|----|----|-------|-----|----|--------|-----------------------|----------|
| 17 | 84 | 100.0 | 77 | 15 | R86859 | Mature MCP-1. | 1.06e-01 |
| 18 | 84 | 100.0 | 99 | 2 | P95387 | Human monocyte chemo- | 1.06e-01 |
| 19 | 84 | 100.0 | 99 | 14 | R73914 | Human monocyte chemo- | 1.06e-01 |
| 20 | 84 | 100.0 | 99 | 5 | R28663 | MCP. | 1.06e-01 |
| 21 | 84 | 100.0 | 99 | 5 | R26581 | Sequence of P6 precu- | 1.06e-01 |
| 22 | 84 | 100.0 | 99 | 30 | W40174 | Macrophage chemoattra | 1.06e-01 |
| 23 | 84 | 100.0 | 99 | 13 | R70800 | Chemoattractant prote | 1.06e-01 |
| 24 | 84 | 100.0 | 99 | 13 | W22675 | Drol3+ chemokine beta | 2.78e-01 |
| 25 | 80 | 95.2 | 71 | 26 | W22675 | Chemokine MCP-4 prote | 2.78e-01 |
| 26 | 80 | 95.2 | 75 | 31 | W56690 | Bac 3 chemokine beta1 | 2.78e-01 |
| 27 | 80 | 95.2 | 75 | 26 | W22673 | Bac 2 chemokine beta1 | 2.78e-01 |
| 28 | 80 | 95.2 | 77 | 26 | W22672 | Droll/2 chemokine bet | 2.78e-01 |
| 29 | 80 | 95.2 | 82 | 24 | W17665 | Stem cell mobilising | 2.78e-01 |
| 30 | 80 | 95.2 | 82 | 26 | W22671 | Bac 1 chemokine beta1 | 2.78e-01 |
| 31 | 80 | 95.2 | 98 | 31 | W56087 | Human monocyte chemo | 2.78e-01 |
| 32 | 80 | 95.2 | 98 | 28 | W30191 | Monocyte chemoattract | 2.78e-01 |
| 33 | 80 | 95.2 | 98 | 26 | W22670 | Human chemokine beta1 | 2.78e-01 |
| 34 | 80 | 95.2 | 98 | 17 | R93087 | Human chemokine beta- | 2.78e-01 |
| 35 | 80 | 95.2 | 99 | 2 | R06398 | Human MCF precursor. | 2.78e-01 |
| 36 | 80 | 95.2 | 395 | 26 | W23347 | Novel murine CX3C 395 | 2.78e-01 |
| 37 | 80 | 95.2 | 395 | 28 | W34308 | Mouse neurotactin. | 2.78e-01 |
| 38 | 77 | 91.7 | 73 | 13 | R70252 | Eotaxin chemoattracta | 5.71e-01 |
| 39 | 77 | 91.7 | 82 | 29 | W44721 | Amino acid sequence o | 5.71e-01 |
| 40 | 77 | 91.7 | 96 | 24 | W14991 | Guinea pig eosinocyte | 5.71e-01 |
| 41 | 77 | 91.7 | 97 | 23 | W10099 | Human eosinocyte | 5.71e-01 |
| 42 | 77 | 91.7 | 97 | 24 | W14990 | Pancreas expressed ch | 5.71e-01 |
| 43 | 77 | 91.7 | 97 | 21 | W00667 | Chemoattractant prote | 5.71e-01 |
| 44 | 77 | 91.7 | 99 | 13 | R70801 | Cytokine encoded by c | 5.71e-01 |
| 45 | 77 | 91.7 | 109 | 2 | R24353 | | |

ALIGNMENTS

RESULT 1
ID W13598 standard; peptide; 66 AA.

DT 07-NOV-1997 (first entry)
DE Monocyte chemoattractant protein analogue MCP-1 (10-76).
KW Truncated monocyte chemoattractant protein-1; inhibitor;
KW receptor binding; anti inflammatory; basophil; lymphocyte; allergy;
KW chronic inflammatory disease; arthritis; arteriosclerosis;
KW lung disease.
OS Homo sapiens.
PN CA2152141-A.
PD 20-DEC-1996.
PF 19-JUN-1995; 152141.
PR 19-JUN-1995; CA-152141.
PA (LEWIS) LEWIS I.
PI Gong J, Lewis I;
DR WPI; 97-165844/16.
PT N-terminally truncated monocyte chemoattractant protein-1 (MCP-1) -
PT lacks MCP-1 activity and inhibits receptor binding, useful as
PT anti-inflammatory agent
PS Disclosure: Page 5; 27pp; English.
CC The present sequence represents an analogue, MCP-1 (10-76), of monocyte
CC chemoattractant protein-1 (MCP-1). The analogue, which lacks the
CC N-terminal amino acids 1-9 of MCP-1, acts as an antagonist of MCP-1
CC as it lacks MCP-1 biological activity and inhibits binding to a MCP-1
CC receptor. The analogue is useful as an anti-inflammatory agent to block
CC the effects of MCP-1 which is an inflammatory mediator causing migration
CC of monocytes and other cells e.g. basophils and lymphocytes into
CC inflammatory sites. MCP-1 has been implicated in allergic and chronic
CC inflammatory diseases e.g. arthritis, arteriosclerosis and several lung
CC diseases. The analogue competes more effectively with MCP-1 for binding
CC MCP-1 receptors than prior art mutant versions of MCP-1 e.g. preferably
CC providing 50% inhibition of binding at a 25:1 ratio or less, compared
CC with 75:1 for prior art mutant 7ND.
SQ Sequence 66 AA;

Query Match 100.0%; Score 84; DB 24; Length 66;
Best Local Similarity 100.0%; Pred. No. 1.06e-01;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db 42 cadpkqkwvq 51
QY 1 CADPKQKRWQ 10

RESULT 2
ID W13597 standard; peptide; 67 AA.
AC W13599;
DT 07-NOV-1997 (first entry)
DE Monocyte chemoattractant protein analogue MCP-1 (11-76).
KW Truncated monocyte chemoattractant protein-1; inhibitor;
KW receptor binding; anti inflammatory; basophil; lymphocyte; allergy;
KW chronic inflammatory disease; arthritis; arteriosclerosis;
KW lung disease.
OS Homo sapiens.
PN CA2152141-A.
PF 19-JUN-1995; 152141.
PR 19-JUN-1995; CA-152141.
PA (LEWIS) LEWIS I.
PI Gong J, Lewis I;
DR WPI; 97-165844/16.
PT N-terminally truncated monocyte chemoattractant protein-1 (MCP-1) -
PT lacks MCP-1 activity and inhibits receptor binding, useful as
PT anti-inflammatory agent
PS Disclosure: Page 5; 27pp; English.
CC The present sequence represents an analogue, MCP-1 (11-76), of monocyte
CC chemoattractant protein-1 (MCP-1). The analogue, which lacks the
CC N-terminal amino acids 1-10 of MCP-1, acts as an antagonist of MCP-1
CC as it lacks MCP-1 biological activity and inhibits binding to a MCP-1
CC receptor. The analogue is useful as an anti-inflammatory agent to block
CC the effects of MCP-1 which is an inflammatory mediator causing migration
CC of monocytes and other cells e.g. basophils and lymphocytes into
CC inflammation sites. MCP-1 has been implicated in allergic and chronic
CC inflammatory diseases e.g. arthritis, arteriosclerosis and several lung
CC diseases. The analogue competes more effectively with MCP-1 for binding
CC MCP-1 receptors than prior art mutant versions of MCP-1 e.g. preferably
CC providing 50% inhibition of binding at a 25:1 ratio or less, compared
CC with 75:1 for prior art mutant 7ND.
SQ Sequence 67 AA;

Query Match 100.0%; Score 84; DB 24; Length 67;
Best Local Similarity 100.0%; Pred. No. 1.06e-01;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 43 cadpkqkwvq 52
QY 1 CADPKQKRWQ 10

RESULT 3
ID W13597 standard; peptide; 68 AA.
AC W13597;
DT 07-NOV-1997 (first entry)
DE Monocyte chemoattractant protein analogue MCP-1 (9-76).
KW Truncated monocyte chemoattractant protein-1; inhibitor;
KW receptor binding; anti inflammatory; basophil; lymphocyte; allergy;
KW chronic inflammatory disease; arthritis; arteriosclerosis;
KW lung disease.
OS Homo sapiens.
PN CA2152141-A.
PF 19-JUN-1995; 152141.
PR 19-JUN-1995; CA-152141.
PA (LEWIS) LEWIS I.
PI Gong J, Lewis I;
DR WPI; 97-165844/16.
PT N-terminally truncated monocyte chemoattractant protein-1 (MCP-1) -
PT lacks MCP-1 activity and inhibits receptor binding, useful as
PT anti-inflammatory agent
PS Claim 7; Page 5; 27pp; English.
CC The present sequence represents an analogue, MCP-1 (9-76), of monocyte
CC chemoattractant protein-1 (MCP-1). The analogue, which lacks the

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CC N-terminal amino acids 1-8 of MCP-1, acts as an antagonist of MCP-1
CC as it lacks MCP-1 biological activity and inhibits binding to a MCP-1
CC receptor. The analogue is useful as an anti-inflammatory agent to block
CC the effects of MCP-1 which is an inflammatory mediator causing migration
CC of monocytes and other cells e.g. basophils and lymphocytes into
CC inflammation sites. MCP-1 has been implicated in allergic and chronic
CC inflammatory diseases e.g. arthritis, arteriosclerosis and several lung
CC diseases. The analogue competes more effectively with MCP-1 for binding
CC MCP-1 receptors than prior art mutant versions of MCP-1 e.g. preferably
CC providing 50% inhibition of binding at a 25:1 ratio or less, compared
CC with 75:1 for prior art mutant 7ND.
SQ Sequence 68 AA;

Query Match 100.0%; Score 84; DB 24; Length 68;
Best Local Similarity 100.0%; Pred. No. 1.06e-01;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 44 cadpkqkwvq 53
QY 1 CADPKQKRWQ 10

RESULT 4
ID R87678 standard; protein; 69 AA.
AC R87678;
DT 21-FEB-1996 (first entry)
DE des(2-8) MCP-1.
KW monocyte chemoattractant protein; MCP-1; mutant; restenosis;
KW angioplasty.
OS Homo sapiens.
FH Key Location/Qualifiers
FT modified_site 2..3
FT /note= "amino acids 2-8 of the native protein have
FT been deleted between these residues"
FT disulfide_bond 4..29
FT disulfide_bond 5..45
PN W09513295-A1.
PD 18-MAY-1995.
PF 07-NOV-1994; U12874.
PR 12-NOV-1993; US-152301.
PA (DAND ) DANA FARBEN CANCER INST INC.
PI Rollins B, Zhang YJ;
DR WPI; 95-215051/28.
PT Human monocyte chemoattractant protein-1 (MCP-1) derivs. - are
PT capable of inhibiting the monocyte chemoattractant activity of
PT endogenous MCP-1 and can be used to treat restenosis
PS Claim 4; Page 11; 22pp; English.
CC Monocyte chemoattractant protein-1 (MCP-1) derivatives are mutated such
CC that they inhibit the monocyte chemoattractant activity of endogenous
CC MCP-1, provided that the derivative has not been modified by the
CC substitution of 28-Tyr by Leu and/or 30-Arg by Val. Preferred mutations
CC are: (1) substitution of 28 Tyr by aspartate; (2) substitution of 24 Arg
CC by Phe; (3) substitution of 3-Asp by Ala; and/or (4) deletion of amino
CC acids 2-8. The present sequence is a specifically claimed human MCP-1
CC derivative based on the parent protein disclosed in Rollins, Molecular
CC and Cellular Biology, Vol. 9, No. 11, pp. 4687-4695, Nov. 1989.
CC The peptides can be used to prevent restenosis, e.g. in patients
CC undergoing coronary artery angioplasty.
SQ Sequence 69 AA;

Query Match 100.0%; Score 84; DB 14; Length 69;
Best Local Similarity 100.0%; Pred. No. 1.06e-01;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 45 cadpkqkwvq 54
QY 1 CADPKQKRWQ 10

RESULT 5
ID W13596 standard; peptide; 69 AA.
AC W13596;
DT 07-NOV-1997 (first entry)

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M P E R C H
(TM)

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MPsrch_pp protein - protein database search, using Smith-Waterman algorithm
Run on: Fri Feb 4 18:03:33 2000; MasPar time 5.07 Seconds
129.098 Million cell updates/sec
Tabular output not generated.

Title: >US-09-150-813-72
Description: (1-12) from US09150813.pep
Perfect Score: 82
Sequence: 1 KACLNPAAPVVK 12
Scoring table: PAM 150
Gap 15

Searched: 179066 segs, 54579741 residues
Post-processing: Minimum Match 0%
Listing first 45 summaries

Database: sptrembl9
1:sp.archaea 2:sp.bacteria 3:sp.fungi 4:sp.human
5:sp.invertebrate 6:sp.mammal 7:sp.mhc 8:sp.organelle
9:sp.phage 10:sp.plant 11:sp.rodent 12:sp.unclassified
13:sp.vertebrate 14:sp.virus

Statistics: Mean 23.018; Variance 24.711; scale 0.932
Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

| SUMMARIES | | | | | | | | | |
|------------|-------|-------------|--------|----|--------|--------------------------|-----------|--|--|
| Result No. | Score | Query Match | Length | DB | ID | Description | Pred. No. | | |
| 1 | 68 | 82.9 | 66 | 6 | Q28724 | PERMEABILITY FACTOR 2 | 5.90e-05 | | |
| 2 | 64 | 78.0 | 103 | 6 | O46678 | GRO. | 7.29e-04 | | |
| 3 | 62 | 75.6 | 59 | 6 | O62764 | MELANOMA GROWTH STIMUL | 2.49e-03 | | |
| 4 | 56 | 68.3 | 614 | 13 | Q91855 | SUP35 (FRAGMENT). | 8.81e-02 | | |
| 5 | 53 | 64.6 | 115 | 2 | O83165 | HYPOTHETICAL 11.8 KD P | 4.83e-01 | | |
| 6 | 51 | 62.2 | 377 | 5 | P92126 | ALPHA-TUBULIN (FRAGMENT) | 1.45e+00 | | |
| 7 | 51 | 62.2 | 380 | 10 | Q43568 | DNA-BINDING PROTEIN (F | 1.45e+00 | | |
| 8 | 51 | 62.2 | 546 | 10 | Q40451 | DNA-BINDING PROTEIN. | 1.45e+00 | | |
| 9 | 51 | 62.2 | 983 | 4 | Q92514 | MYELOBLAST KIAA0240 (F | 1.45e+00 | | |
| 10 | 51 | 62.2 | 1296 | 4 | Q13463 | PATCHED HOMOLOG (PTC). | 1.45e+00 | | |
| 11 | 51 | 62.2 | 1434 | 11 | Q61115 | PATCHED HOMOLOG. | 1.45e+00 | | |
| 12 | 51 | 62.2 | 1442 | 13 | Q90693 | PATCHED PROTEIN. | 1.45e+00 | | |
| 13 | 51 | 62.2 | 1447 | 4 | Q13635 | PATCHED. | 1.45e+00 | | |
| 14 | 51 | 62.2 | 2610 | 5 | Q13482 | F15B9.7 PROTEIN. | 1.45e+00 | | |
| 15 | 50 | 61.0 | 307 | 3 | Q13713 | HYPOTHETICAL 33.9 KD Z | 2.50e+00 | | |
| 16 | 50 | 61.0 | 406 | 14 | O36366 | ORF11. | 2.50e+00 | | |
| 17 | 50 | 61.0 | 830 | 10 | O04864 | 1.4-ALPHA-GLUCAN BRANC | 2.50e+00 | | |
| 18 | 50 | 61.0 | 1053 | 3 | O74425 | 3-HYDROXY-3-METHYLGLUT | 2.50e+00 | | |
| 19 | 49 | 59.8 | 104 | 13 | O73912 | K60 PROTEIN PRECURSOR. | 4.25e+00 | | |
| 20 | 49 | 59.8 | 257 | 13 | O42335 | PTC1 (FRAGMENT). | 4.25e+00 | | |

| | | | | | | | | | |
|----|----|------|-------|----|--------|------------------------|----------|--|--|
| 21 | 49 | 59.8 | 268 | 10 | O65707 | HYPOTHETICAL 30.0 KD P | 4.25e+00 | | |
| 22 | 49 | 59.8 | 331 | 5 | Q26047 | ALPHA-TUBULIN ISOTYPE | 4.25e+00 | | |
| 23 | 49 | 59.8 | 359 | 5 | O01944 | ALPHA-4-TUBULIN (FRAGM | 4.25e+00 | | |
| 24 | 49 | 59.8 | 449 | 4 | O13748 | ALPHA-TUBULIN (ALPHA-T | 4.25e+00 | | |
| 25 | 49 | 59.8 | 449 | 13 | O42271 | ALPHA-TUBULIN. | 4.25e+00 | | |
| 26 | 49 | 59.8 | 450 | 5 | O76659 | TUBULIN ALPHA CHAIN. | 4.25e+00 | | |
| 27 | 49 | 59.8 | 451 | 5 | O94985 | ALPHA-1 TUBULIN. | 4.25e+00 | | |
| 28 | 49 | 59.8 | 451 | 5 | O01942 | ALPHA-2 TUBULIN. | 4.25e+00 | | |
| 29 | 49 | 59.8 | 451 | 5 | O94978 | ALPHA-1-TUBULIN. | 4.25e+00 | | |
| 30 | 49 | 59.8 | 451 | 5 | O01941 | ALPHA-TUBULIN. | 4.25e+00 | | |
| 31 | 49 | 59.8 | 451 | 5 | O26595 | ALPHA-TUBULIN. | 4.25e+00 | | |
| 32 | 49 | 59.8 | 451 | 5 | O27122 | GAG PRO POL POLYPROTEI | 4.25e+00 | | |
| 33 | 49 | 59.8 | 591 | 14 | Q83391 | PRI10. | 4.25e+00 | | |
| 34 | 49 | 59.8 | 859 | 14 | O92804 | PRI10. | 4.25e+00 | | |
| 35 | 49 | 59.8 | 1754 | 14 | O56220 | TYPE IIA PROCOLLAGEN (| 7.19e+00 | | |
| 36 | 48 | 58.5 | 119 | 6 | O77753 | ALPHA-3-TUBULIN (FRAGM | 7.19e+00 | | |
| 37 | 48 | 58.5 | 443 | 5 | O01943 | HYPOTHETICAL 47.9 KD P | 7.19e+00 | | |
| 38 | 48 | 58.5 | 458 | 2 | O05591 | UNKNOWN FUNCTION. | 7.19e+00 | | |
| 39 | 48 | 58.5 | 501 | 2 | O46447 | HYPOTHETICAL 63.5 KD P | 7.19e+00 | | |
| 40 | 48 | 58.5 | 566 | 2 | O84354 | DSM 30040 CYCLOPROPANE | 7.19e+00 | | |
| 41 | 48 | 58.5 | 603 | 2 | O46035 | HYPOTHETICAL 70.7 KD P | 7.19e+00 | | |
| 42 | 48 | 58.5 | 608 | 2 | O84657 | CYCLOSPORIN SYNTHETASE | 7.19e+00 | | |
| 43 | 48 | 58.5 | 15281 | 3 | O09164 | RO2 ORF264 PROTEIN. | 1.21e+01 | | |
| 44 | 47 | 57.3 | 264 | 2 | P75596 | GLYCOPROTEIN E. | 1.21e+01 | | |
| 45 | 47 | 57.3 | 522 | 14 | O91334 | | | | |

ALIGNMENTS

| RESULT | 1 | PRELIMINARY; | PRT; | 66 | AA. |
|--|---|----------------|------|-----|-----|
| ID | Q28724 | | | | |
| AC | Q28724 | | | | |
| DT | 01-NOV-1996 (TREMBLREL. 01, CREATED) | | | | |
| DT | 01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE) | | | | |
| DT | 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE) | | | | |
| DE | PERMEABILITY FACTOR 2 (FRAGMENT). | | | | |
| GN | RPF2. | | | | |
| OS | ORYCTOLAGUS CUNICULUS (RABBIT). | | | | |
| OC | EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; | | | | |
| OC | LAGOMORPHA; LEPORIDAE; ORYCTOLAGUS. | | | | |
| RN | [1] | | | | |
| RP | SEQUENCE FROM N.A. | | | | |
| RC | STRAIN-NEW ZEALAND WHITE; | | | | |
| RX | MEDLINE: 95129889 | | | | |
| RA | JOHNSON M.C., GOODMAN R.B. II, KAJIKAWA O., WONG V.A., MONGOVIN S.M., | | | | |
| RA | MARTIN T.R.; | | | | |
| RT | "Cloning of two rabbit GRO homologues and their expression in | | | | |
| RT | RT alveolar macrophages." | | | | |
| RL | GENE 151:337-338(1994). | | | | |
| EMBL | L28933; G455343; - | | | | |
| DR | PROSITE: PS00471; SMALL_CYTOKINES_CXC; 1. | | | | |
| DR | PFAM: PF00048; 118; 1. | | | | |
| FT | NON_TER 1 | | | | |
| SQ | SEQUENCE 66 AA; 7102 MW; D4C4BC7D CRC32; | | | | |
| Query Match 82.9%; Score 68; DB 6; Length 66; | | | | | |
| Best Local Similarity 81.8%; Pred. No. 5.90e-05; | | | | | |
| Matches 9; Conservative 2; Mismatches 0; Indels 0; Gaps 0; | | | | | |
| Db | 43 | ACLNPAAPVVK 53 | | | |
| QY | 2 | ACLNPASPIVK 12 | | | |
| RESULT | 2 | PRELIMINARY; | PRT; | 103 | AA. |
| ID | O46678 | | | | |
| AC | O46678; | | | | |
| DT | 01-JUN-1998 (TREMBLREL. 06, CREATED) | | | | |
| DT | 01-JUN-1998 (TREMBLREL. 06, LAST SEQUENCE UPDATE) | | | | |
| DT | 01-AUG-1998 (TREMBLREL. 07, LAST ANNOTATION UPDATE) | | | | |
| DE | GRO. | | | | |
| OS | OVIS ARIES (SHEEP). | | | | |
| OC | EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; | | | | |

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OC ARTIODACTYLA; RUMINANTIA; PECORA; BOVOIDEA; BOVIDAE; CAPRINAE; OVIS.
RN [1]
RP SEQUENCE FROM N.A.
RA YOSHIMURA T., MODI W.S.;
RL SUBMITTED (MAR-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL; U95814; G2735499;
SQ SEQUENCE 103 AA; 10820 MW; C34945B7 CRC32;

Query Match      78.0%; Score 64; DB 6; Length 103;
Best Local Similarity 80.0%; Pred. No. 7.29e-04;
Matches      8; Conservative      2; Mismatches 0; Indels 0; Gaps 0;

Db 81 CLNPAAPVVK 90
   |||||:|:|
QY 3 CLNPASPIVK 12

RESULT 3
ID O62764 PRELIMINARY; PRT; 59 AA.
AC O62764;
DT 01-AUG-1998 (TREMBLREL. 07, CREATED)
DT 01-AUG-1998 (TREMBLREL. 07, LAST SEQUENCE UPDATE)
DT 01-AUG-1998 (TREMBLREL. 07, LAST SEQUENCE UPDATE)
DE MELANOMA GROWTH STIMULATORY ACTIVITY HOMOLOG (FRAGMENT).
GN MGSA.
OS EQUUS CABALLUS (HORSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC PERISSODACTYLA; EQUIDAE; EQUUS.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=SKIN;
RA RIDER S., CHECA-CORTES M.L., JOERG H., STRANZINGER G.;
RL SUBMITTED (MAR-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL; AF053497; G303533;
FT NON_TER 1
SQ SEQUENCE 59 AA; 6344 MW; 0C5EA8CC CRC32;

Query Match      75.6%; Score 62; DB 6; Length 59;
Best Local Similarity 63.6%; Pred. No. 2.49e-03;
Matches      7; Conservative      3; Mismatches 1; Indels 0; Gaps 0;

Db 36 TCLNPEAPVVK 46
   :||||:|:|
QY 2 ACLNPASPIVK 12

RESULT 4
ID Q91855 PRELIMINARY; PRT; 614 AA.
AC Q91855;
DT 01-NOV-1996 (TREMBLREL. 01, CREATED)
DT 01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)
DT 01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)
DE SUP35 (FRAGMENT).
GN SUP35.
OS XENOPUS LAEVIS (AFRICAN CLAWED FROG).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; AMPHIBIA; BATRACHIA; ANURA;
OC MESOBATRACHIA; PIPOIDEA; PIPOIDAE; XENOPODINAE; XENOPUS.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=UNFERTILIZED EGGS;
RX MEDLINE; 8832972.
RA KUSHNIROV V.V., TER-AVANEVSKAN M.D., TELKOV M.V., SURGUCHOV A.P.,
RA SMIRNOV V.N., INGE-VECHTOMOV S.G.;
RT "Nucleotide sequence of the SUP35 (SUP35) gene of Saccharomyces
cerevisiae.";
RL GENE 66:45-54(1988).
RN [2]
RP SEQUENCE FROM N.A.
RC TISSUE=UNFERTILIZED EGGS;
RX MEDLINE; 95393983.
RA ZHOURAVLEVA G., FROLOVA L.Y., LE GOFF X., LE GUELLEC R.,
RA INGE-VECHTOMOV S.G., KISSELEV L.L., PHILIPPE M.;
RT "Termination of translation in eukaryotes is governed by two

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RT interacting polypeptide chain release factors, eRF1 and eRF3.";
RL EMBO J. 14:4065-4072(1995).
DR EMBL; L37045; G976219;
DR PFAM; PF00009; GTP_EFTU; 1.
FT NON_TER 1
SQ SEQUENCE 614 AA; 67919 MW; 672740BD CRC32;

Query Match      68.3%; Score 56; DB 13; Length 614;
Best Local Similarity 45.5%; Pred. No. 8.81e-02;
Matches      5; Conservative      5; Mismatches 1; Indels 0; Gaps 0;

Db 20 PCLTPSAPLIK 30
   :|||:|:|:|
QY 2 ACLNPASPIVK 12

RESULT 5
ID O83165 PRELIMINARY; PRT; 115 AA.
AC O83165;
DT 01-NOV-1998 (TREMBLREL. 08, CREATED)
DT 01-NOV-1998 (TREMBLREL. 08, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST SEQUENCE UPDATE)
DE HYPOTHETICAL 11.8 KD PROTEIN.
GN TP0128.
OS TREPONEMA PALLIDUM.
OC BACTERIA; SPIROCHAETALES; SPIROCHAETACEAE; TREPONEMA.
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE; 98332770.
RA FRASER C.M., NORRIS S.J., WEINSTOCK G.M., WHITE O., SUTTON G.G.,
RA DODSON R., GWINN M., HICKEY E.K., CLAYTON R., KETCHUM K.A.,
RA SODERGREN E., HARDHAM J.M., MCLEOD M.P., SALZBERG S., PETERSON J.,
RA KHALAK H., RICHARDSON D., HOWELL J.K., CHIDAMBARAM M., UTTERBACK T.,
RA MCDONALD L., ARTIACH P., BOWMAN C., COTTON M.D., FUJII C., GARLAND S.,
RA HATCH B., HORST K., ROBERTS K., WATTHEY L., WEIDMAN J., SMITH H.O.,
RA VENTER J.C.;
RT "Complete Genome Sequence of Treponema pallidum, the Syphilis
Spirochete.";
RL SCIENCE 281:375-388(1998).
RN [2]
RP SEQUENCE FROM N.A.
RA FRASER C.M., NORRIS S.J., WEINSTOCK G.M., WHITE O., SUTTON G.G.,
RA DODSON R., GWINN M., HICKEY E.K., CLAYTON R., KETCHUM K.A.,
RA SODERGREN E., HARDHAM J.M., MCLEOD M.P., SALZBERG S., PETERSON J.,
RA KHALAK H., RICHARDSON D., HOWELL J.K., CHIDAMBARAM M., UTTERBACK T.,
RA MCDONALD L., ARTIACH P., BOWMAN C., COTTON M.D., FUJII C., GARLAND S.,
RA HATCH B., HORST K., ROBERTS K., WATTHEY L., WEIDMAN J., SMITH H.O.,
RA VENTER J.C.;
RL SUBMITTED (MAR-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL; AE001198; G3322395;
KW HYPOTHETICAL PROTEIN.
SQ SEQUENCE 115 AA; 11763 MW; 4616268A CRC32;

Query Match      64.6%; Score 53; DB 2; Length 115;
Best Local Similarity 58.3%; Pred. No. 4.83e-01;
Matches      7; Conservative      3; Mismatches 2; Indels 0; Gaps 0;

Db 35 RACLVPASFEVR 46
   :|||:|:|:|
QY 1 KACLNPASPIVK 12

RESULT 6
ID P92126 PRELIMINARY; PRT; 377 AA.
AC P92126;
DT 01-MAY-1997 (TREMBLREL. 03, CREATED)
DT 01-MAY-1997 (TREMBLREL. 03, LAST SEQUENCE UPDATE)
DT 01-MAY-1997 (TREMBLREL. 03, LAST SEQUENCE UPDATE)
DE ALPHA-TUBULIN (FRAGMENT).
GN ATUB.
OS NOSEMA LOCUSTAE.
OC EUKARYOTA; MICROSPORIDIA; NOSEMATIDAE; NOSEMA.
RN [1]

```


RP SEQUENCE FROM N.A.
RX MEDLINE: 97109817;
RA KEELING P.J., DOOLITTLE W.F.;
RT "Alpha-tubulin from early-diverging eukaryotic lineages and the
RL evolution of the tubulin family";
RM MOL. BIOL. EVOL. 13:1297-1305(1996).
DR EMBL: U66907; G1755092; -;
DR PFAM: PF00091; tubulin; 1.
FT NON_TER 1 377
SQ SEQUENCE 377 AA; 41951 MW; 604D34D6 CRC32;

Query Match 62.2%; Score 51; DB 5; Length 377;
Best Local Similarity 63.6%; Pred. No. 1.45e+00;
Matches 7; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Db 265 ACNPESQWV 275
QY 2 ACLNPASPIV 12
II:II I:II
[1]

RESULT 7 PRELIMINARY; PRT; 380 AA.
ID Q43568;
AC Q43568;
DT 01-NOV-1996 (TREMBLREL. 01, CREATED)
DT 01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)
DT 01-JAN-1999 (TREMBLREL. 09, LAST ANNOTATION UPDATE)
DE DNA-BINDING PROTEIN (FRAGMENT).
GN ATP1.
OS NICOTIANA TABACUM (COMMON TOBACCO).
OC EUKARYOTA; VIRIDIPALTA; STREPTOPHYTA; TRACHEOPHYTA;
OC EUPHYLLIPHYTES; SPERMATOPHYTA; MAGNOLIOPHYTA; EUDICOTYLEDONS;
OC ASTERIDAE; SOLANACEAE; SOLANALES; NICOTIANACEAE; NICOTIANA.
[1]
RN SEQUENCE FROM N.A.
RP STRAIN-CV. SRI1; TISSUE-LEAF;
RC TJADEN G.; CORUZZI G.W.;
RL PLANT CELL 1:107-118(1994).
DR EMBL: L26113; G456124; -;
DR MENDEL: 16184; NICta; 2451; mn16184.
KW DNA-BINDING.
FT NON_TER 1 39388 MW; 60583FC0 CRC32;
SQ SEQUENCE 380 AA; 39388 MW; 60583FC0 CRC32;

Query Match 62.2%; Score 51; DB 10; Length 380;
Best Local Similarity 54.5%; Pred. No. 1.45e+00;
Matches 6; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

Db 348 KPLNAESPPI 358
QY 1 KACLNPASPIV 11
II:II I:II
[1]

RESULT 8 PRELIMINARY; PRT; 546 AA.
ID Q40451;
AC Q40451;
DT 01-NOV-1996 (TREMBLREL. 01, CREATED)
DT 01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)
DT 01-JAN-1999 (TREMBLREL. 09, LAST ANNOTATION UPDATE)
DE DNA-BINDING PROTEIN.
GN PABF.
OS NICOTIANA TABACUM (COMMON TOBACCO).
OC EUKARYOTA; VIRIDIPALTA; STREPTOPHYTA; TRACHEOPHYTA;
OC EUPHYLLIPHYTES; SPERMATOPHYTA; MAGNOLIOPHYTA; EUDICOTYLEDONS;
OC ASTERIDAE; SOLANACEAE; SOLANALES; NICOTIANACEAE; NICOTIANA.
[1]
RN SEQUENCE FROM N.A.
RP STRAIN-XANTHI; TISSUE-STEM;
RC LAIBLE G.; NATT E.; SEGUIN A.; DOERNER P.W.; LAMB C.J.;
RL SUBMITTED (FEB-1994) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL: U06712; G555655; -;
DR PFAM: PF00538; linker_histone; 1.

DR MENDEL: 16183; NICta; 2451; mn16183.
RW DNA-BINDING.
SQ SEQUENCE 546 AA; 57188 MW; 98DD1AF9 CRC32;

Query Match 62.2%; Score 51; DB 10; Length 546;
Best Local Similarity 54.5%; Pred. No. 1.45e+00;
Matches 6; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

Db 514 KPLNAESPPI 524
QY 1 KACLNPASPIV 11
II:II I:II
[1]

RESULT 9 PRELIMINARY; PRT; 983 AA.
ID Q92514;
AC Q92514;
DT 01-FEB-1997 (TREMBLREL. 02, CREATED)
DT 01-FEB-1997 (TREMBLREL. 02, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE MYELOBLAST KIAA0240 (FRAGMENT).
GN KIAA0240.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC CATARRHINI; HOMINIDAE; HOMO.
[1]
RN SEQUENCE FROM N.A.
RP TISSUE-BONE MARROW;
RC MEDLINE: 97191544.
RX NAGASE T.; SERI N.; ISHIKAWA K.; OHIRA M.; KAWARABAYASI Y.; OHARA O.;
RA TANAKA A.; KOTANI H.; MIYAJIMA N.; NOMURA N.;
RT "Prediction of the coding sequences of unidentified human genes. VI.
RT The coding sequences of 80 new genes (KIAA0201-KIAA0280) deduced by
RT analysis of cDNA clones from cell line KG-1 and brain.";
RL DNA RES. 3:321-329(1996).
DR EMBL: D87077; D1013936; -;
FT NON_TER 1 105052 MW; 7C466D59 CRC32;
SQ SEQUENCE 983 AA; 105052 MW; 7C466D59 CRC32;

Query Match 62.2%; Score 51; DB 4; Length 983;
Best Local Similarity 70.0%; Pred. No. 1.45e+00;
Matches 7; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Db 520 KKLNOTSPI 529
QY 1 KACLNPASPI 10
II:II I:II
[1]

RESULT 10 PRELIMINARY; PRT; 1296 AA.
ID Q13463;
AC Q13463;
DT 01-NOV-1996 (TREMBLREL. 01, CREATED)
DT 01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE PATCHED HOMOLOG (PTC).
GN PTC.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC CATARRHINI; HOMINIDAE; HOMO.
[1]
RN SEQUENCE FROM N.A.
RX MEDLINE: 96218118.
RA HAHN H.; CHRISTIANSEN J.; WICKING C.; ZAPHIROPOULOS P.G.; TOFTGARD R.;
RA CHIDAMBARAM A.; GERRARD B.; VORECHOVSKY I.; BALE A.E.;
RA DEAN M.; WAINWRIGHT B.;
RT "A mammalian patched homolog is expressed in target tissues of sonic
RT hedgehog and maps to a region associated with developmental
RT abnormalities.";
RL J. BIOL. CHEM. 271:12125-12128(1996).
DR EMBL: U43148; G1335864; -;
SQ SEQUENCE 1296 AA; 144461 MW; 8E10F149 CRC32;

Query Match 62.2%; Score 51; DB 4; Length 1296;
Best Local Similarity 66.7%; Pred. No. 1.45e+00;

Matches 6; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 143 RPLNPDADP 151
 QY 1 KACLNPDADP 9
 ::|||

RESULT 11
 ID Q61115 PRELIMINARY; PRT; 1434 AA.
 AC Q61115;
 DT 01-NOV-1996 (TREMBLREL. 01, CREATED)
 DT 01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
 DE PATCHED HOMOLOGUE.
 GN PTCH.
 OS MUS MUSCULUS (MOUSE).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
 OC SCIUROGNATHI; MURIDAE; MURINAE; MUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 96176226.
 RA GOODRICH L.V., JOHNSON R.L., MILENKOVIC L., MCMAHON J.A., SCOTT M.P.;
 RT "Conservation of the hedgehog/patched signaling pathway from flies to
 RT mice: induction of a mouse patched gene by Hedgehog."
 RL GENES DEV. 10:301-312(1996).
 DR EMBL; U46155; G1181885;
 DR MGD; MGI:105373; PTCH.
 SQ SEQUENCE 1434 AA; 159272 MW; 69A82E46 CRC32;

Query Match 62.2%; Score 51; DB 11; Length 1434;
 Best Local Similarity 66.7%; Pred. No. 1.45e+00;
 Matches 6; Conservative 2; Mismatches 1; Indels 0; Gaps 0;
 Db 280 RPLNPDADP 288
 QY 1 KACLNPDADP 9
 ::|||

RESULT 12
 ID Q90693 PRELIMINARY; PRT; 1442 AA.
 AC Q90693;
 DT 01-NOV-1996 (TREMBLREL. 01, CREATED)
 DT 01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
 DE PATCHED PROTEIN.
 GN PTCH.
 OS GALLUS GALLUS (CHICKEN).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; ARCHOSAURIA; AVES;
 OC NEOGNATHAE; GALLIFORMES; PHASIANIDAE; PHASIANINAE; GALLUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 96205046.
 RA MARIKO V., SCOTT M.P., JOHNSON R.L., GOODRICH L.V., TABIN C.;
 RT "Conservation in hedgehog signaling: induction of a chicken patched
 RT homolog by Sonic hedgehog in the developing limb."
 RL DEVELOPMENT 122:1225-1233(1996).
 DR EMBL; U40074; G1335851;
 DR MGD; MGI:105373; PTCH.
 SQ SEQUENCE 1442 AA; 160576 MW; 4DA25B6D CRC32;

Query Match 62.2%; Score 51; DB 13; Length 1442;
 Best Local Similarity 66.7%; Pred. No. 1.45e+00;
 Matches 6; Conservative 2; Mismatches 1; Indels 0; Gaps 0;
 Db 294 RPLNPDADP 302
 QY 1 KACLNPDADP 9
 ::|||

RESULT 13
 ID Q13635 PRELIMINARY; PRT; 1447 AA.
 AC Q13635;
 DT 01-NOV-1996 (TREMBLREL. 01, CREATED)
 DT 01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)

DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
 DE PATCHED.
 GN PTC.
 OS HOMO SAPIENS (HUMAN).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
 OC CATARRHINI; HOMINIDAE; HOMO.
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 96247324.
 RA JOHNSON R.L., ROTHMAN A.L., XIE J., GOODRICH L.V., BARE J.W.,
 RA BONIFAS J.M., QUINN A.G., MYERS R.N., COX D.R., EPSTEIN E.H. JR.,
 RA SCOTT M.P.;
 RT "Human homolog of patched, a candidate gene for the basal cell nevus
 RT syndrome."
 RL SCIENCE 272:1668-1671(1996).
 DR EMBL; U59464; G1381236;
 SQ SEQUENCE 1447 AA; 160559 MW; 6BD592C2 CRC32;

Query Match 62.2%; Score 51; DB 4; Length 1447;
 Best Local Similarity 66.7%; Pred. No. 1.45e+00;
 Matches 6; Conservative 2; Mismatches 1; Indels 0; Gaps 0;
 Db 294 RPLNPDADP 302
 QY 1 KACLNPDADP 9
 ::|||

RESULT 14
 ID Q19482 PRELIMINARY; PRT; 2610 AA.
 AC Q19482; Q23218;
 DT 01-NOV-1996 (TREMBLREL. 01, CREATED)
 DT 01-NOV-1998 (TREMBLREL. 08, LAST SEQUENCE UPDATE)
 DT 01-AUG-1998 (TREMBLREL. 07, LAST ANNOTATION UPDATE)
 DE F15B9.7 PROTEIN.
 GN F15B9.7.
 OS CAENORHABDITIS ELEGANS.
 OC EUKARYOTA; METAZOA; NEMATODA; SECERNENTEA; RHABDITIA; RHABDITIDA;
 OC RHABDITINA; RHABDITOIDEA; RHABDITIDAE; PELODERINAE; CAENORHABDITIS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RA BAYNES C.;
 RL SUBMITTED (AUG-1996) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [2]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 94150718.
 RA WILSON R., AINSKOUGH R., ANDERSON K., BAYNES C., BERKS M.,
 RA BONFIELD J., BURTON J., CONNELL M., COPSEY T., COOPER J., COULSON A.,
 RA CRAXTON M., DEAR S., DU Z., DURBIN R., FAVELLO A., FULTON L.,
 RA GARDNER A., GREEN P., HAWKINS T., HILLIER L., JIER M., JOHNSON L.,
 RA JONES M., KERSHAW J., KIRSTEN J., LAISTER N., LATREILLE P.,
 RA LIGHTNING J., LLOYD C., MCMURRAY A., MORTIMORE B., O'CALLAGHAN M.,
 RA PARSONS J., PERCY C., RIFKEN L., ROOPRA A., SAUNDERS D., SHOWNKEEN R.,
 RA SWALDON N., SMITH A., SONNHAMMER E., STADEN R., SULSTON J.,
 RA THIERRY-MIEG J., THOMAS K., VAUDIN M., VAUGHAN K., WATERSTON R.,
 RA WATSON A., WEINSTOCK L., WILKINSON-SPROAT J., WOHLDMAN P.;
 RT "2.2 Mb of contiguous nucleotide sequence from chromosome III of C.
 RT elegans."
 RL NATURE 368:32-38(1994).
 RN [3]
 RP SEQUENCE FROM N.A.
 RA PERCY C.;
 RL SUBMITTED (AUG-1996) TO EMBL/GENBANK/DBJ DATA BANKS.
 CC -1- SUBCELLULAR LOCATION: TYPE I MEMBRANE PROTEIN (BY SIMILARITY).
 DR EMBL; Z78018; E1350097;
 DR EMBL; Z78013; E1350097; JOINED.
 DR EMBL; Z78013; E1345595;
 DR EMBL; Z78018; E1345595; JOINED.
 DR PROSITE; PS00232; CADHERIN; 6.
 KW CELL ADHESION; GLYCOPROTEIN; TRANSMEMBRANE; CALCIUM-BINDING; REPEAT.
 SQ SEQUENCE 2610 AA; 290075 MW; 1D187623 CRC32;

Query Match 62.2%; Score 51; DB 5; Length 2610;

Best Local Similarity 50.0%; Pred. No. 1.45e+00;
Matches 5; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 59 PCLHPCOPII 68
QY 2 ACLNPASPIV 11

RESULT 15
ID 013713 PRELIMINARY; PRT: 307 AA.
AC 013713:
DT 01-JUN-1998 (TREMBREL. 06, CREATED)
DT 01-JUN-1998 (TREMBREL. 06, LAST SEQUENCE UPDATE)
DT 01-JUN-1998 (TREMBREL. 06, LAST ANNOTATION UPDATE)
DE HYPOTHETICAL 33.9 KD ZINC FINGER PROTEIN C14C4.06C IN CHROMOSOME I.
GN SPAC14C4.06C.
OS SCHIZOSACCHAROMYCES POMBE (FISSION YEAST).
OC EUKARYOTA; FUNGI; ASCOMYCOTA; ARCHIASCOMYCETES;
OC SCHIZOSACCHAROMYCETALES; SCHIZOSACCHAROMYCETACEAE;
OC SCHIZOSACCHAROMYCES.
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=972;
RA DEVLIN K., CHURCHER C.M., BARRELL B.G., RAJANDREAM M.A., WOOD V.;
RL SUBMITTED (AUG-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
CC -!- SUBCELLULAR LOCATION: NUCLEAR (POTENTIAL).
DR EMBL; Z98596; E334264; -.
KW HYPOTHETICAL PROTEIN; NUCLEAR PROTEIN; DNA-BINDING; ZINC-FINGER;
KW METAL-BINDING.
FT ZN.FING 184 199 C3H-TYPE.
SQ SEQUENCE 307 AA; 33929 MW; 7B5BE6D8 CRC32;

Query Match 61.0%; Score 50; DB 3; Length 307;
Best Local Similarity 54.5%; Pred. No. 2.50e+00;
Matches 6; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

Db 257 KPCINPACRFI 267
QY 1 KACLNPAPIV 11

Search completed: Fri Feb 4 18:04:29 2000
Job time : 56 secs.

DE Monocyte chemoattractant protein analogue MCP-1 (8-76).
 KW Truncated monocyte chemoattractant protein-1; inhibitor;
 KW receptor binding; anti inflammatory; basophil; lymphocyte; allergy;
 KW chronic inflammatory disease; arthritis; arteriosclerosis;
 KW lung disease.
 OS Homo sapiens.
 PN CA2152141-A.
 PD 20-DEC-1996.
 PF 19-JUN-1995; 152141.
 PR 19-JUN-1995; CA-152141.
 PA (LEWIS) LEWIS I.
 PI Gong J, Lewis I;
 DR WPI; 97-165844/16.
 DT N-terminally truncated monocyte chemoattractant protein-1 (MCP-1) -
 PT lacks MCP-1 activity and inhibits receptor binding, useful as
 PT anti-inflammatory agent
 PS Claim 5; Page 5; 27pp; English.
 CC The present sequence represents an analogue, MCP-1 (8-76), of monocyte
 CC chemoattractant protein-1 (MCP-1). The analogue, which lacks the
 CC N-terminal amino acids 1-7 of MCP-1, acts as an antagonist of MCP-1
 CC as it lacks MCP-1 biological activity and inhibits binding to a MCP-1
 CC receptor. The analogue is useful as an anti-inflammatory agent to block
 CC the effects of MCP-1 which is an inflammatory mediator causing migration
 CC of monocytes and other cells e.g. basophils and lymphocytes into
 CC inflammatory sites. MCP-1 has been implicated in allergic and chronic
 CC inflammatory diseases e.g. arthritis, arteriosclerosis and several lung
 CC diseases. The analogue competes more effectively with MCP-1 for binding
 CC MCP-1 receptors than prior art mutant versions of MCP-1 e.g. preferably
 CC providing 50% inhibition of binding at a 25:1 ratio or less, compared
 CC with 75:1 for prior art mutant 7ND.
 CC Sequence 69 AA;
 SQ

Query Match 100.0%; Score 84; DB 24; Length 69;
 Best Local Similarity 100.0%; Pred. No. 1.06e-01;
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Db 45 cadpkqkvwq 54
 QY 1 CADPKQKRWQ 10
 |||||

RESULT 6
 ID R87675 standard; protein; 76 AA.
 AC R87675;
 DT 21-FEB-1996 (first entry)
 DE (28-Asp) MCP-1.
 KW monocyte chemoattractant protein; MCP-1; mutant; restenosis;
 KW angioplasty.
 OS Homo sapiens.
 FH Key Location/Qualifiers
 FT modified_site 28
 FT disulfide_bond 11..36
 FT disulfide_bond 12..52
 PN W09513295-A1.
 PD 18-MAY-1995.
 PF 07-NOV-1994; U12874.
 PR 12-NOV-1993; US-152301.
 PA (DAND) DANA FARBER CANCER INST INC.
 PI Rollins B, Zhang YJ;
 DR WPI; 95-215051/28.
 PT Human monocyte chemoattractant protein-1 (MCP-1) derivs. - are
 PT capable of inhibiting the monocyte chemo-attractant activity of
 PT endogenous MCP-1 and can be used to treat restenosis
 PS Claim 3; Page 11; 22pp; English.
 CC Monocyte chemoattractant protein-1 (MCP-1) derivatives are mutated such
 CC that they inhibit the monocyte chemoattractant activity of endogenous
 CC MCP-1, provided that the derivative has not been modified by the
 CC substitution of 28-Tyr by Leu and/or 30-Arg by Val. Preferred mutations
 CC are: (1) substitution of 28 Tyr by aspartate; (2) substitution of 24 Arg
 CC by Phe; (3) substitution of 3-Asp by Ala; and/or (4) deletion of amino
 CC acids 2-8. The present sequence is a specifically claimed human MCP-1
 CC derivative based on the parent protein disclosed in Rollins, Molecular

CC and Cellular Biology, Vol. 9, No. 11, pp. 4687-4695, Nov. 1989.
 CC The peptides can be used to prevent restenosis, e.g. in patients
 CC undergoing coronary artery angioplasty.
 SQ Sequence 76 AA;
 Query Match 100.0%; Score 84; DB 14; Length 76;
 Best Local Similarity 100.0%; Pred. No. 1.06e-01;
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Db 52 cadpkqkvwq 61
 QY 1 CADPKQKRWQ 10
 |||||

RESULT 7
 ID R26580 standard; Protein; 76 AA.
 AC R26580;
 DT 28-JAN-1993 (first entry)
 DE Sequence of bovine p6 protein.
 KW Monocyte chemoattractant; bovine p6-derivative; thrombosis; tumour;
 KW inflammation therapy.
 OS Bos taurus.
 PN DE4125251-C.
 PD 03-SEP-1992.
 PF 31-JUL-1991; 125251.
 PR 31-JUL-1991; DE-125251.
 PA (SCHA-) SCHAPER & BRUEMMER GMBH & CO KG.
 PI Gramm W, Lins E;
 DR WPI; 92-293439/36.
 PT Drug containing a bovine protein homologous to human MCP-1 - for
 PT treating inflammation, tumours, thrombosis, and immune reactions,
 PT also for diagnosis
 PS Claim 1; Page 3; 6pp; German.
 CC Poly(A)+RNA from bull seminal vesicles was used to prepare a cDNA in
 CC the expression vector lambda gt11. 1.5 x 10(5) cDNA clones were
 CC screened with a polyclonal anti-p6 antiserum of monospecific
 CC immunoglobulin G and six positives were identified. The insert of a
 CC suitable cDNA clone, pH42, was cloned into pUC18 and sequenced.
 CC pH42 encodes the 11,114 Da precursor of p6. It is called Monocyte
 CC Chemoattractant (bmcp-1), which is a homologue of human (h)MCP-1.
 CC There is 72% overall AA sequence homology to hMCP-1 with the signal
 CC peptide showing 100% and the central region showing 89% homology.
 CC Sequence 76 AA;
 Query Match 100.0%; Score 84; DB 5; Length 76;
 Best Local Similarity 100.0%; Pred. No. 1.06e-01;
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Db 52 cadpkqkvwq 61
 QY 1 CADPKQKRWQ 10
 |||||

RESULT 8
 ID W09374 standard; Protein; 76 AA.
 AC W09374;
 DT 21-MAR-1997 (first entry)
 DE Monocyte chemotactic protein 1.
 KW Human; monocyte chemoattractant protein; antisenese; inhibition;
 KW mononuclear cell; lymphocyte; macrophage; smooth muscle cell;
 KW vascular restenosis.
 OS Homo sapiens.
 FH Key Location/Qualifiers
 FT misc_difference 1 /note= "encoded by codon CAG"
 FT misc_difference 51 /note= "encoded by codon AUG"
 FT misc_difference 65 /note= "encoded by codon CAC"
 FT US5571713-A.
 PN 05-NOV-1996.
 PD 22-OCT-1992; 965678.
 PR 22-OCT-1992; US-965678.

PR 27-MAY-1994; US-250958.
 PA (UNMI) UNIV MICHIGAN.
 PI Kunkel SL, Lyle LR, Strieter RM;
 DR WPI; 96-505405/50.
 DR N-PSDB; T48092.
 PT Anti-sense Monocyte Chemoattractant Protein-1 oligo:nucleotide(s) -
 PT useful for therapy or diagnosis of restenosis, etc.
 PS Disclosure: Column 13-14; 16pp; English.
 CC This is the amino acid sequence of the C-C chemokine family. MCP-1 is a potent
 CC protein (MCP)-1, a member of the C-C chemokine family. MCP-1 is a potent
 CC stimulator of monocyte chemotaxis and is produced by injured vascular
 CC smooth cells thus attracting monocytes and macrophages which infiltrate
 CC the injured area and release growth factor. This causes proliferation of
 CC the vascular smooth cells resulting in restenosis. The gene sequence can
 CC be used to generate antisense sequences e.g. T48093-7, which can be used
 CC to inhibit in vitro MCP-1 prodn. by mononuclear cells e.g. lymphocytes or
 CC macrophages, or smooth muscle cells, esp. in order to prevent vascular
 CC restenosis.
 SQ Sequence 76 AA;

Query Match 100.0%; Score 84; DB 20; Length 76;
 Best Local Similarity 100.0%; Pred. No. 1.06e-01;
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 52 cadpkqkwvq 61
 |||||
 QY 1 CADPKQKRWQ 10

RESULT 9
 ID R87677 standard; protein; 76 AA.
 AC R87677;
 DT 21-FEB-1996 (first entry)
 DE (3-Ala) MCP-1.
 KW monocyte chemoattractant protein; MCP-1; mutant; restenosis;
 KW angioplasty.
 OS Homo sapiens.
 FH Key
 FT modified_site 3
 FT /note= "Asp in the native sequence is replaced by Ala"
 FT disulfide_bond 11..36
 FT disulfide_bond 12..52
 PN W09513295-Al.
 PD 18-MAY-1995.
 PF 07-NOV-1994; U12874.
 PR 12-NOV-1993; US-152301.
 PA (DAND) DANA FARBBER CANCER INST INC.
 PI Rollins B, Zhang YJ;
 DR WPI; 95-215051/28.
 PT Human monocyte chemo-attractant protein-1 (MCP-1) derivs. - are
 PT capable of inhibiting the monocyte chemo-attractant activity of
 PT endogenous MCP-1 and can be used to treat restenosis
 PS Claim 6; Page 11; 22pp; English.
 CC Monocyte chemoattractant protein-1 (MCP-1) derivatives are mutated such
 CC that they inhibit the monocyte chemoattractant activity of endogenous
 CC MCP-1, provided that the derivative has not been modified by the
 CC substitution of 28-tyr by Leu and/or 30-Arg by Val. Preferred mutations
 CC are: (1) substitution of 28 Tyr by aspartate; (2) substitution of 24 Arg
 CC by Phe; (3) substitution of 3-Asp by Ala; and/or (4) deletion of amino
 CC acids 2-8. The present sequence is a specifically claimed human MCP-1
 CC derivative based on the parent protein disclosed in Rollins, Molecular
 CC and Cellular Biology, Vol. 9, No. 11, pp. 4687-4695, Nov. 1989.
 CC The peptides can be used to prevent restenosis, e.g. in patients
 CC undergoing coronary artery angioplasty.
 SQ Sequence 76 AA;

Query Match 100.0%; Score 84; DB 14; Length 76;
 Best Local Similarity 100.0%; Pred. No. 1.06e-01;
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 52 cadpkqkwvq 61
 |||||
 QY 1 CADPKQKRWQ 10

RESULT 10
 ID P90292 standard; peptide; 76 AA.
 AC P90292;
 DT 17-JAN-1990 (first entry)
 DE Peptide from human glioma cell line U-105MG.
 KW Glioma; leucocyte; chemotaxis; neoplasms.
 OS Human.
 FH Key
 FT modified_site 1
 FT Location/Qualifiers
 FT /label= OTHER
 FT /note= "pyroglutamic acid"
 PN US7304234-A.
 PD 20-JUL-1989.
 PF 31-JAN-1989;
 PR 31-JAN-1989; US-304234.
 PA (USSH) US Dept. of Health and Human.
 PI Yoshimura T, Robinson E; Appella E; Leonard E.
 DR WPI; 89-263501/36.
 PT New peptide with specific chemotactic activity for monocytes - isolated
 PT from glioma or leucocyte cells, useful for treating infections and
 PT neoplasms.
 PS Disclosure; page 3; 46pp; English.
 CC Peptide is derived from glioma cell line U-105MG (ATCC CRL9932) or from
 CC leukocytes and has mol. wt. 8400. Used to treat infections and neoplasms.
 SQ Sequence 76 AA;

Query Match 100.0%; Score 84; DB 1; Length 76;
 Best Local Similarity 100.0%; Pred. No. 1.06e-01;
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 52 cadpkqkwvq 61
 |||||
 QY 1 CADPKQKRWQ 10

RESULT 11
 ID W40175 standard; Protein; 76 AA.
 AC W40175;
 DT 01-JUL-1998 (first entry)
 DE Macrophage chemoattractant peptide designated GDCF-2.
 KW Monocyte chemoattractant peptide; MCP; MCP-1; treatment; neoplasm;
 KW infection; human; monocyte receptor; chemotactic response; inflammation;
 KW monocyte infiltration.
 OS Homo sapiens.
 FH Key
 FT Location/Qualifiers
 FT modified_site 1
 FT /note= "pyroglutamic acid"
 PN US5714578-A.
 PD 03-FEB-1998.
 PF 06-JUN-1995; 466280.
 PR 30-MAR-1989; US-330446.
 PR 31-JAN-1989; US-304234.
 PA (USSH) US DEPT HEALTH & HUMAN SERVICES.
 PI Appella E, Leonard EJ, Robinson EA, Yoshimura T;
 DR WPI; 98-129909/12.
 PT Peptide with chemotactic activity for monocytes - from human
 PT neocytes or glioma cells, useful for treating infections and
 PT neoplasms
 PS Claim 1; Column 27; 21pp; English.
 CC The present sequence represents a monocyte chemoattractant peptide (MCP)
 CC designated GDCF-2. MCPs can be isolated from human glioma cell line
 CC U-105MG (e.g. present sequence) and peripheral blood mononuclear
 CC leukocytes. MCPs are used for the treatment of neoplasms and infections
 CC in humans. Short peptides derived from MCPs can be screened to identify
 CC those that can bind to the monocyte receptor without stimulating a
 CC chemotactic response. These are potentially useful for treating a
 CC inflammation associated with monocyte infiltration.
 SQ Sequence 76 AA;

Query Match 100.0%; Score 84; DB 30; Length 76;
 Best Local Similarity 100.0%; Pred. No. 1.06e-01;

CC potent effect on skin wounds and ulcers. The present sequence is human
CC MCAF, the activity of which is exemplified as the new remedy.

SQ Sequence 76 AA;
Query Match 100.0%; Score 84; DB 14; Length 76;
Best Local Similarity 100.0%; Pred. No. 1.06e-01;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 52 cadpkqkvvq 61
| | | | | | | | | |
QY 1 CADPKQKVVQ 10

RESULT 14
ID R28660 standard; Protein; 76 AA.
AC R28660;
DT 24-MAR-1993 (first entry)
DE MCF.
KW Plasmid; monocyte chemotactic factor; MCF; translation;
KW termination; terminator; initiation; ribosome binding site;
KW RBS; promoter; tryptophan; repressor.
OS Synthetic.
PN WO9219737-A.
PD 12-NOV-1992.
PF 27-APR-1992; J00550.
PR 09-MAY-1991; JP-135950.
PA (DAIN) DAINIPPON PHARM CO LTD.
PI Fukui T, Matsuo N, Yamada M, Yamagishi J;
DR WPI: 92-398864/48.
DR N-PSDB; Q30745-46.
PT Prodn. of polypeptide(s) having monocyte chemotactic activity -
PT using expression plasmids with E. coli elements and specific
PT E.coli strains
PS Claim 1; Page 48 + Page 36; 56pp; English.
CC An expression plasmid, PHM483, for producing MCF(76) consisting
CC of 76 amino acids was constructed. The prod. can be used for e.g.
CC treating bacterial infectious diseases.
SQ Sequence 76 AA;

Query Match 100.0%; Score 84; DB 5; Length 76;
Best Local Similarity 100.0%; Pred. No. 1.06e-01;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 52 cadpkqkvvq 61
| | | | | | | | | |
QY 1 CADPKQKVVQ 10

RESULT 15
ID R53398 standard; Protein; 76 AA.
AC R53398;
DT 15-DEC-1994 (first entry)
DE Sense MCP-1.
KW Antisense; RNA; DNA; monocyte chemotactic protein-1; MCP-1;
KW radionuclide; vascular restenosis; alpha; beta; emitting isotope;
KW diagnosis; monocytes; vascular injury.
OS Mammalian.
FH Key Location/Qualifiers
FT misc_difference 1 /note= "Unspecified amino acid"
FT WO9409128-A.
PN 28-APR-1994.
PD 20-OCT-1993; U10074.
PF 22-OCT-1992; US-965678.
PR (MLCW) MALLINCKRODT MEDICAL INC.
PA Lyle LR;
PI WPI: 94-151314/18.
DR WPI: 94-151314/18.
PT Anti-sense monocyte chemotactic protein-1 oligonucleotide(s) and
PT peptide(s) - is used for inhibiting, treating or imaging areas of
PT vascular restenosis or potential restenosis
PS Disclosure; Page 5; 42pp; English.
CC The sequences given in R53398-99 represent sense and antisense
CC monocyte chemotactic protein-1 (MCP-1) respectively. These

Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 52 cadpkqkvvq 61
| | | | | | | | | |
QY 1 CADPKQKVVQ 10

RESULT 12
ID R87676 standard; protein; 76 AA.
AC R87676;
DT 21-FEB-1996 (first entry)
DE (24-Arg) MCP-1.
KW monocyte chemoattractant protein; MCP-1; mutant; restenosis;
KW angioplasty.
OS Homo sapiens.
FH Key Location/Qualifiers
FT modified_site 24 /note= "Arg in the native sequence is replaced by Phe"
FT disulfide_bond 11..36
FT disulfide_bond 12..52
PN WO9513295-A1.
PD 18-MAY-1995.
PF 07-NOV-1994; U12874.
PR 12-NOV-1993; US-152301.
PA (DAND) DANA FARBER CANCER INST INC.
PI Rollins B, Zhang YJ;
DR WPI: 95-215051/28.
PT Human monocyte chemo-attractant protein-1 (MCP-1) derivs. - are
PT capable of inhibiting the monocyte chemo-attractant activity of
PT endogenous MCP-1 and can be used to treat restenosis
PS Claim 5; Page 11; 22pp; English.
CC Monocyte chemoattractant protein-1 (MCP-1) derivatives are mutated such
CC that they inhibit the monocyte chemo-attractant activity of endogenous
CC MCP-1, provided that the derivative has not been modified by the
CC substitution of 28-Tyr by Leu and/or 30-Arg by Val. Preferred mutations
CC are: (1) substitution of 28 Tyr by aspartate; (2) substitution of 24 Arg
CC by Phe; (3) substitution of 3-Asp by Ala; and/or (4) deletion of amino
CC acids 2-8. The present sequence is a specifically claimed human MCP-1
CC derivative based on the parent protein disclosed in Rollins, Molecular
CC and Cellular Biology, Vol. 9, No. 11, pp. 4697-4695, Nov. 1989.
CC The peptides can be used to prevent restenosis, e.g. in patients
CC undergoing coronary artery angioplasty.
SQ Sequence 76 AA;

Query Match 100.0%; Score 84; DB 14; Length 76;
Best Local Similarity 100.0%; Pred. No. 1.06e-01;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 52 cadpkqkvvq 61
| | | | | | | | | |
QY 1 CADPKQKVVQ 10

RESULT 13
ID R87680 standard; protein; 76 AA.
AC R87680;
DT 05-MAR-1996 (first entry)
DE Monocyte chemotactic activating factor for use as wound remedy.
KW monocyte chemotactic activating factor; MCAF; wound remedy.
OS Homo sapiens.
PN WO9507710-A1.
PD 23-MAR-1994.
PF 13-SEP-1994; J01512.
PR 13-SEP-1993; JP-227385.
PA (TORA) TORAY IND INC.
PI Matsushima K, Naruto M;
DR WPI: 95-131181/17.
PT Wound treatment using monocyte chemotactic factor - has potent
PT therapeutic effect on skin wounds and ulcers
PS Disclosure; Page 12; 22pp; Japanese.
CC The invention relates to a new remedy for curing wounds which, instead
CC of comprising a growth factor, comprises a monocyte chemotactic
CC activating factor (MCAF) or its variants or derivatives. The factor has

CC oligonucleotides may be labelled with a radionuclide and use
CC therapeutically for the treatment of vascular restenosis.
CC Radiolabelled antisense MCP-1 compounds may be constructed using high
CC energy alpha or beta emitting isotopes rather than the gamma
CC emitters customarily used for diagnostic purposes. Antisense MCP-1
CC compounds inactivate MCP-1 or inhibit production of MCP-1 so that
CC monocytes are not attracted to the area of vascular injury and
CC proliferation of vascular cells is inhibited.
SQ Sequence 76 AA;

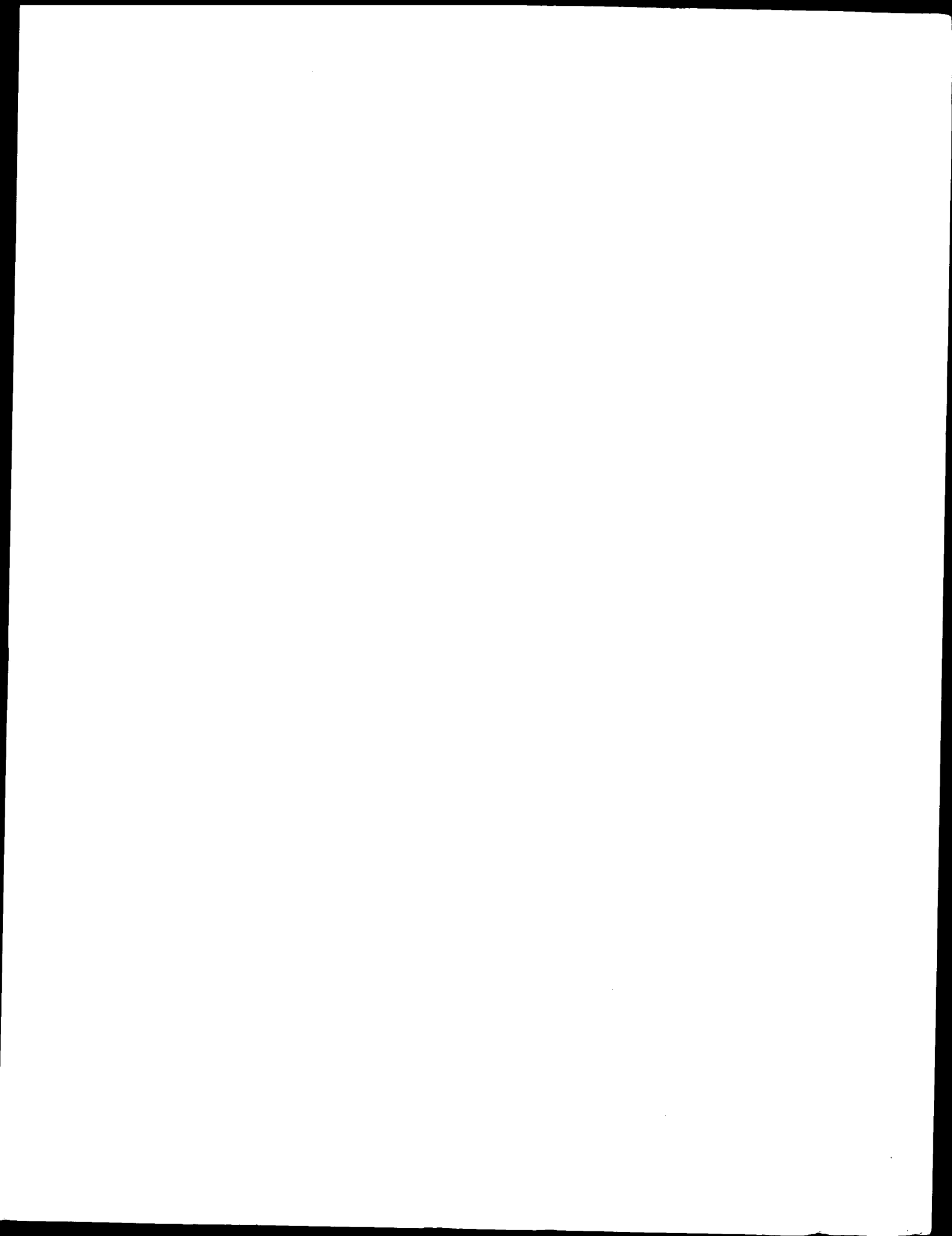
Query Match 100.0%; Score 84; DB 10; Length 76;
Best Local Similarity 100.0%; Pred. No. 1.06e-01;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Db 52 cadpdkqkwq 61
Qy 1 CADPRQRWVQ 10
|||||

Search completed: Fri Feb 4 16:58:32 2000
Job time : 20 secs.

SKA-2000 Comparison A

DE Monocyte chemoattractant protein analogue MCP-1 (8-76).
KW Truncated monocyte chemoattractant protein-1; inhibitor;
KW receptor binding; anti inflammatory; basophil; lymphocyte; allergy;
KW chronic inflammatory disease; arthritis; arteriosclerosis;
KW lung disease.
OS Homo sapiens.
PN CA2152141-A.
PD 20-DEC-1996.
PF 19-JUN-1995; 152141.
PR 19-JUN-1995; CA-152141.
PA (LEWIS) LEWIS I.
PI Gong J, Lewis I;
DR WPI; 97-165844/16.
PT N-terminally truncated monocyte chemoattractant protein-1 (MCP-1) -
PT lacks MCP-1 activity and inhibits receptor binding, useful as
PT anti-inflammatory agent
PS Claim 5; Page 5; 27pp; English.
CC The present sequence represents an analogue, MCP-1 (8-76), of monocyte
CC chemoattractant protein-1 (MCP-1). The analogue, which lacks the
CC N-terminal amino acids 1-7 of MCP-1, acts as an antagonist of MCP-1
CC as it lacks MCP-1 biological activity and inhibits binding to a MCP-1
CC receptor. The analogue is useful as an anti-inflammatory agent to block
CC the effects of MCP-1 which is an inflammatory mediator causing migration
CC of monocytes and other cells e.g. basophils and lymphocytes into
CC inflammation sites. MCP-1 has been implicated in allergic and chronic
CC inflammatory diseases e.g. arthritis, arteriosclerosis and several lung
CC diseases. The analogue competes more effectively with MCP-1 for binding
CC MCP-1 receptors than prior art mutant versions of MCP-1 e.g. preferably
CC providing 50% inhibition of binding at a 25:1 ratio or less, compared
CC with 75:1 for prior art mutant 7ND.
SQ Sequence 69 AA;
Query Match 100.0%; Score 84; DB 24; Length 69;
Best Local Similarity 100.0%; Pred. No. 1.06e-01;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Db 45 cadpkqkvqv 54
QY 1 CADPKQKVVQ 10
RESULT 6
ID R87675 standard; protein; 76 AA.
AC R87675;
DE 21-FEB-1996 (first entry)
DE (28-ASP) MCP-1.
KW monocyte chemoattractant protein; MCP-1; mutant; restenosis;
KW angioplasty.
OS Homo sapiens.
FH Key
FT modified_site 28
FT Location/Qualifiers
FT /note= "Tyr in the native sequence is replaced by Asp"
FT disulfide_bond 11..36
FT disulfide_bond 12..52
FT W09513295-A1.
PN 18-MAY-1995.
PF 07-NOV-1994; U12874.
PR 12-NOV-1993; US-152301.
PA (DAND) DANA FARBER CANCER INST INC.
PI Rollins B, Zhang YJ;
DR WPI; 95-215051/28.
PT Human monocyte chemoattractant protein-1 (MCP-1) derivs. - are
PT capable of inhibiting the monocyte chemoattractant activity of
PT endogenous MCP-1 and can be used to treat restenosis
PS Claim 3; Page 11; 22pp; English.
CC Monocyte chemoattractant protein-1 (MCP-1) derivatives are mutated such
CC that they inhibit the monocyte chemoattractant activity of endogenous
CC MCP-1, provided that the derivative has not been modified by the
CC substitution of 28-Tyr by Leu and/or 30-Arg by Val. Preferred mutations
CC are: (1) substitution of 28-Tyr by aspartate; (2) substitution of 24 Arg
CC by Phe; (3) substitution of 3-Asp by Ala; and/or (4) deletion of amino
CC acids 2-8. The present sequence is a specifically claimed human MCP-1
CC derivative based on the parent protein disclosed in Rollins, Molecular

CC and Cellular Biology, Vol. 9, No. 11, pp. 4687-4695, Nov. 1989.
CC The peptides can be used to prevent restenosis, e.g. in patients
CC undergoing coronary artery angioplasty.
SQ Sequence 76 AA;
Query Match 100.0%; Score 84; DB 14; Length 76;
Best Local Similarity 100.0%; Pred. No. 1.06e-01;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Db 52 cadpkqkvqv 61
QY 1 CADPKQKVVQ 10
RESULT 7
ID R26580 standard; protein; 76 AA.
AC R26580;
DE 28-JAN-1993 (first entry)
DE Sequence of bovine P6 protein.
KW Monocyte chemoattractant; bovine P6-derivative; thrombosis; tumour;
KW inflammation therapy.
OS Bos taurus.
PN DE4125251-C.
PD 03-SEP-1992.
PR 31-JUL-1991; 125251.
PR (SCHAE) SCHAEFER & BRUEMME GMBH & CO KG.
PA Gram W, Lins E;
PI WPI; 92-293438/36.
DR Drug containing a bovine protein homologous to human MCP-1 - for
PT treating inflammation, tumours, thrombosis, and immune reactions,
PT also for diagnosis
PS Claim 1; Page 3; 6pp; German.
CC Poly(A+)RNA from bull seminal vesicles was used to prepare a cDNA in
CC the expression vector lambda gtl1. 1.5 x 10(5) cDNA clones were
CC screened with a polyclonal anti-P6 antiserum of monospecific
CC immunoglobulin G and six positives were identified. The insert of a
CC suitable cDNA clone, p42, was cloned into pUC18 and sequenced.
CC p42 encodes the 11,114 Da precursor of P6. It is called Monocyte
CC chemoattractant (MCP-1), which is a homologue of human (h)MCP-1.
CC There is 72% overall AA sequence homology to hMCP-1 with the signal
CC peptide showing 100% and the central region showing 89% homology.
SQ Sequence 76 AA;
Query Match 100.0%; Score 84; DB 5; Length 76;
Best Local Similarity 100.0%; Pred. No. 1.06e-01;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Db 52 cadpkqkvqv 61
QY 1 CADPKQKVVQ 10
RESULT 8
ID W09374 standard; protein; 76 AA.
AC W09374;
DE 21-MAR-1997 (first entry)
DE Monocyte chemotactic protein 1.
KW Human; monocyte chemoattractant protein; antitense; inhibition;
KW mononuclear cell; lymphocyte; macrophage; smooth muscle cell;
KW vascular restenosis.
OS Homo sapiens.
FH Key
FT Location/Qualifiers
FT misc_difference 1
FT /note= "encoded by codon CAG"
FT misc_difference 51
FT /note= "encoded by codon AUG"
FT misc_difference 65
FT /note= "encoded by codon CAC"
US5571713-A.
PN 05-NOV-1996.
PD 23-OCT-1992; 965678.
PF 23-OCT-1992; US-965678.
PR 23-OCT-1992; US-965678.



Sequence Comparison A

DE Monocyte chemoattractant protein analogue MCP-1 (8-76).
KW Truncated monocyte chemoattractant protein-1; inhibitor;
KW receptor binding; anti inflammatory; basophil; lymphocyte; allergy;
KW chronic inflammatory disease; arthritis; arteriosclerosis;
OS lung disease.
OS Homo sapiens.
PN CA2152141-A.
PD 20-DEC-1996.
PF 19-JUN-1995; 152141.
PR 19-JUN-1995; CA-152141.
PA (LEWIS) LEWIS I.
PI Gong J, Lewis I.
DR WPI; 97-16584/16.
PT N-terminally truncated monocyte chemoattractant protein-1 (MCP-1) -
PT lacks MCP-1 activity and inhibits receptor binding, useful as
PT anti-inflammatory agent
PS Claim 5; Page 5; 27pp; English.
CC The present sequence represents an analogue, MCP-1 (8-76), of monocyte
CC chemoattractant protein-1 (MCP-1). The analogue, which lacks the
CC N-terminal amino acids 1-7 of MCP-1, acts as an antagonist of MCP-1
CC as it lacks MCP-1 biological activity and inhibits binding to a MCP-1
CC receptor. The analogue is useful as an anti-inflammatory agent to block
CC the effects of MCP-1 which is an inflammatory mediator causing migration
CC of monocytes and other cells e.g. basophils and lymphocytes into
CC inflammatory sites. MCP-1 has been implicated in allergic and chronic
CC inflammatory diseases e.g. arthritis, arteriosclerosis and several lung
CC diseases. The analogue competes more effectively with MCP-1 for binding
CC MCP-1 receptors than prior art mutant versions of MCP-1 e.g. preferably
CC providing 50% inhibition of binding at a 25:1 ratio or less, compared
CC with 75:1 for prior art mutant 7ND.
CC Sequence 69 AA;

Query Match 100.0%; Score 84; DB 24; Length 69;
Best Local Similarity 100.0%; Pred. No. 1.06e-01;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 45 cadpkqkwvq 54
||| |||||
QY 1 CADPKQKWVQ 10

RESULT 6
ID R87675 standard; protein; 76 AA.
AC R87675;
DT 21-FEB-1996 (first entry)
DE (28-Asp) MCP-1.
KW monocyte chemoattractant protein; MCP-1; mutant; restenosis;
KW angioplasty.
OS Homo sapiens.
FH Key Location/Qualifiers
FT modified_site 28
FT /note= "Tyr in the native sequence is replaced by Asp"
FT disulfide_bond 11..36
FT disulfide_bond 12..52
FT W09513295-A1.
PD 18-MAY-1995.
PF 07-NOV-1994; U12874.
PR 12-NOV-1993; US-152301.
PA (DAND) DANA FARBER CANCER INST INC.
PI Rollins B, Zhang YJ;
DR WPI; 95-215051/28.
PT Human monocyte chemoattractant protein-1 (MCP-1) derivs. - are
PT capable of inhibiting the monocyte chemo-attractant activity of
PT endogenous MCP-1 and can be used to treat restenosis
PS Claim 3; Page 11; 22pp; English.
CC Monocyte chemoattractant protein-1 (MCP-1) derivatives are mutated such
CC that they inhibit the monocyte chemoattractant activity of endogenous
CC MCP-1. Provided that the derivative has not been modified by the
CC substitution of 28-tyr by Leu and/or 30-Arg by Val. Preferred mutations
CC are: (1) substitution of 28 Tyr by aspartate; (2) substitution of 24 Arg
CC by Phe; (3) substitution of 3-Asp by Ala; and/or (4) deletion of amino
CC acids 2-8. The present sequence is a specifically claimed human MCP-1
CC derivative based on the parent protein disclosed in Rollins, Molecular

CC and Cellular Biology, Vol. 9, No. 11, pp. 4687-4695, Nov. 1989.
CC The peptides can be used to prevent restenosis, e.g. in patients
CC undergoing coronary artery angioplasty.
SQ Sequence 76 AA;

Query Match 100.0%; Score 84; DB 14; Length 76;
Best Local Similarity 100.0%; Pred. No. 1.06e-01;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 52 cadpkqkwvq 61
||| |||||
QY 1 CADPKQKWVQ 10

RESULT 7
ID R26580 standard; protein; 76 AA.
AC R26580;
DT 28-JAN-1993 (first entry)
DE Sequence of bovine P6 protein.
KW Monocyte chemoattractant; bovine P6-derivative; thrombosis; tumour;
KW inflammation therapy.
OS Bos taurus.
PN DE4125251-C.
PD 03-SEP-1992.
PR 31-JUL-1991; 125251.
PR 31-JUL-1991; DE-125251.
PA (SCHA-) SCHAPER & BROEMMER GMBH & CO KG.
PI Gramm W, Lins E;
DR WPI; 92-293438/36.
PT Drug containing a bovine protein homologous to human MCP-1 - for
PT treating inflammation, tumours, thrombosis, and immune reactions,
PT also for diagnosis
PS Claim 1; Page 3; 6pp; German.
CC Poly(A+)RNA from bull seminal vesicles was used to prepare a cDNA in
CC the expression vector lambda gtl1. 1.5 x 10(5) cDNA clones were
CC screened with a polyclonal anti-p6 antiserum of monospecific
CC immunoglobulin G and six positives were identified. The insert of a
CC suitable cDNA clone, p42, was cloned into pUC18 and sequenced.
CC p42 encodes the 11,114 bp precursor of P6. It is called Monocyte
CC Chemoattractant (bmcp-1), which is a homologue of human (h)MCP-1.
CC There is 72% overall AA sequence homology to hMCP-1 with the signal
CC peptide showing 100% and the central region showing 89% homology.
SQ Sequence 76 AA;

Query Match 100.0%; Score 84; DB 5; Length 76;
Best Local Similarity 100.0%; Pred. No. 1.06e-01;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 52 cadpkqkwvq 61
||| |||||
QY 1 CADPKQKWVQ 10

RESULT 8
ID W09374 standard; protein; 76 AA.
AC W09374;
DT 21-NOV-1997 (first entry)
DE Monocyte chemoattractant protein 1.
KW Human; monocyte chemoattractant protein; antisenase; inhibition;
KW mononuclear cell; lymphocyte; macrophage; smooth muscle cell;
KW vascular restenosis.
OS Homo sapiens.
FH Key Location/Qualifiers
FT misc_difference 1 /note= "encoded by codon CAG"
FT misc_difference 51 /note= "encoded by codon AUG"
FT misc_difference 65 /note= "encoded by codon CAC"
PN US5571713-A.
PD 05-NOV-1996.
PF 22-OCT-1992; 965678.
PR 22-OCT-1992; US-965678.

W P E R E H (TM)

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MPSrch_pp protein - protein database search, using Smith-Waterman algorithm

Run on: Fri Feb 4 16:59:22 2000; MasPar time 2.48 Seconds
Tabular output not generated. 114.038 Million cell updates/sec

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Description: (1-10) from US09150813.pep
Perfect Score: 84
Sequence: 1 CADPKQKWQ 10
Scoring table: PAM 150
Gap 15
Searched: 77977 seqs, 28268293 residues
Post-processing: Minimum Match 0%
Listing first 45 summaries
Database: swiss-prot37
1:swissprot
Statistics: Mean 24.651; Variance 31.983; scale 0.771

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match | Length | ID | Description | Pred. No. |
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| 1 | 84 | 100.0 | 99 | 1 | MCPI_HUMAN | MONOCYTE CHEMOTACTIC P 5.10e-07 |
| 2 | 84 | 100.0 | 99 | 1 | MCPA_BOVIN | MONOCYTE CHEMOTACTIC P 5.10e-07 |
| 3 | 84 | 100.0 | 99 | 1 | MCP2_BOVIN | MONOCYTE CHEMOTACTIC P 5.10e-07 |
| 4 | 84 | 100.0 | 101 | 1 | MCPI_CANFA | MONOCYTE CHEMOTACTIC P 5.10e-07 |
| 5 | 84 | 100.0 | 123 | 1 | MCPI_RABIT | MONOCYTE CHEMOTACTIC P 5.10e-07 |
| 6 | 83 | 98.8 | 99 | 1 | MCPI_PIG | MONOCYTE CHEMOTACTIC P 8.92e-07 |
| 7 | 80 | 95.2 | 98 | 1 | MCP4_HUMAN | MONOCYTE CHEMOTACTIC P 4.71e-06 |
| 8 | 77 | 91.7 | 96 | 1 | EOTA_CAVPO | EOTAXIN PRECURSOR (EOS 2.43e-05 |
| 9 | 77 | 91.7 | 97 | 1 | EOTA_HUMAN | EOTAXIN PRECURSOR (EOS 2.43e-05 |
| 10 | 77 | 91.7 | 97 | 1 | EOTA_RAT | EOTAXIN PRECURSOR (EOS 2.43e-05 |
| 11 | 77 | 91.7 | 97 | 1 | EOTA_MOUSE | EOTAXIN PRECURSOR (EOS 2.43e-05 |
| 12 | 77 | 91.7 | 99 | 1 | MCP3_HUMAN | MONOCYTE CHEMOTACTIC P 2.43e-05 |
| 13 | 77 | 91.7 | 99 | 1 | MCP2_PIG | MONOCYTE CHEMOTACTIC P 2.43e-05 |
| 14 | 77 | 91.7 | 120 | 1 | MCPI_CAVPO | MONOCYTE CHEMOTACTIC P 2.43e-05 |
| 15 | 73 | 86.9 | 92 | 1 | MILA_RAT | MACROPHAGE INFLAMMATOR 2.07e-04 |
| 16 | 73 | 86.9 | 101 | 1 | IL8_SHEEP | INTERLEUKIN-8 PRECURSOR 2.07e-04 |
| 17 | 73 | 86.9 | 101 | 1 | IL8_RABIT | INTERLEUKIN-8 PRECURSOR 2.07e-04 |
| 18 | 73 | 86.9 | 101 | 1 | IL8_CANFA | INTERLEUKIN-8 PRECURSOR 2.07e-04 |
| 19 | 73 | 86.9 | 103 | 1 | IL8_PIG | INTERLEUKIN-8 PRECURSOR 2.07e-04 |
| 20 | 73 | 86.9 | 104 | 1 | MCP5_MOUSE | MONOCYTE CHEMOTACTIC P 2.07e-04 |
| 21 | 71 | 84.5 | 89 | 1 | MIP4_HUMAN | MACROPHAGE INFLAMMATOR 5.95e-04 |
| 22 | 71 | 84.5 | 99 | 1 | MCP2_HUMAN | MONOCYTE CHEMOTACTIC P 5.95e-04 |
| 23 | 70 | 83.3 | 101 | 1 | IL8_BOVIN | INTERLEUKIN-8 PRECURSOR 1.00e-03 |

| | | | | | | |
|----|----|------|-----|---|-------------|----------------------------------|
| 24 | 70 | 83.3 | 101 | 1 | IL8_CAVPO | INTERLEUKIN-8 PRECURSOR 1.00e-03 |
| 25 | 69 | 82.1 | 74 | 1 | MCP1_MOUSE | MONOCYTE CHEMOTACTIC P 1.68e-03 |
| 26 | 69 | 82.1 | 148 | 1 | MCP1_MOUSE | MONOCYTE CHEMOTACTIC P 1.68e-03 |
| 27 | 67 | 79.8 | 89 | 1 | SDF1_MOUSE | STROMAL CELL-DERIVED F 4.70e-03 |
| 28 | 67 | 79.8 | 93 | 1 | SDF1_FELCA | STROMAL CELL-DERIVED F 4.70e-03 |
| 29 | 67 | 79.8 | 93 | 1 | SDF1_HUMAN | STROMAL CELL-DERIVED F 4.70e-03 |
| 30 | 67 | 79.8 | 96 | 1 | MIP3A_HUMAN | MACROPHAGE INFLAMMATOR 4.70e-03 |
| 31 | 67 | 79.8 | 99 | 1 | IL8_HUMAN | INTERLEUKIN-8 PRECURSOR 4.70e-03 |
| 32 | 66 | 78.6 | 91 | 1 | SISD_MOUSE | T-CELL SPECIFIC RANTES 7.81e-03 |
| 33 | 66 | 78.6 | 92 | 1 | MILA_MOUSE | MACROPHAGE INFLAMMATOR 7.81e-03 |
| 34 | 66 | 78.6 | 92 | 1 | SISD_RAT | T-CELL SPECIFIC RANTES 7.81e-03 |
| 35 | 65 | 77.4 | 93 | 1 | CCC1_HUMAN | CHEMOKINE CC-1 PRECURS 1.29e-02 |
| 36 | 65 | 77.4 | 109 | 1 | CCC3_HUMAN | CHEMOKINE CC-3 PRECURS 1.29e-02 |
| 37 | 64 | 76.2 | 92 | 1 | MILB_HUMAN | MACROPHAGE INFLAMMATOR 2.13e-02 |
| 38 | 64 | 76.2 | 92 | 1 | MILB_HUMAN | MACROPHAGE INFLAMMATOR 2.13e-02 |
| 39 | 64 | 76.2 | 93 | 1 | MIL10_HUMAN | TONSILLAR LYMPHOCYTE L 2.13e-02 |
| 40 | 64 | 76.2 | 97 | 1 | MCP3_MOUSE | MONOCYTE CHEMOTACTIC P 2.13e-02 |
| 41 | 63 | 75.0 | 101 | 1 | IL8_CERTO | INTERLEUKIN-8 PRECURSOR 3.50e-02 |
| 42 | 63 | 75.0 | 101 | 1 | IL8_MACMO | INTERLEUKIN-8 PRECURSOR 3.50e-02 |
| 43 | 63 | 75.0 | 148 | 1 | MCPI_RAT | MONOCYTE CHEMOTACTIC P 3.50e-02 |
| 44 | 62 | 73.8 | 114 | 1 | LTN_RAT | LYMPHOTACTIN PRECURSOR 5.71e-02 |
| 45 | 61 | 72.6 | 114 | 1 | LTN_MOUSE | LYMPHOTACTIN PRECURSOR 9.30e-02 |

ALIGNMENTS

| | |
|--------|--|
| RESULT | 1 |
| ID | MCPI_HUMAN |
| AD | P13500; |
| DT | 01-JAN-1990 (REL. 13, CREATED) |
| DT | 01-JAN-1990 (REL. 13, LAST SEQUENCE UPDATE) |
| DT | 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE) |
| DE | MONOCYTE CHEMOTACTIC PROTEIN 1 PRECURSOR (MCP-1) (MONOCYTE CHEMOTACTIC |
| DE | AND ACTIVATING FACTOR) (MCAF) (MONOCYTE SECRETORY PROTEIN JE) |
| DE | (MONOCYTE CHEMOATTRACTANT PROTEIN 1) (HC11) (SMALL INDUCIBLE CYTOKINE |
| DE | A2). |
| GN | SCYA2 OR MCP1. |
| OS | HOMO SAPIENS (HUMAN). |
| OC | EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; |
| OC | PRIMATES; CATARRHINI; HOMINIDAE; HOMO. |
| RN | [1] |
| RP | SEQUENCE FROM N.A. |
| RX | MEDLINE; 89165862. |
| RA | FURUTANI Y., NOMURA H., NOTAKE M., OYAMADA Y., FUKUI T., YAMADA M., |
| RA | LARSEN C.G., OPPENHEIM J.J., MATSUSHIMA K.; |
| RT | "Cloning and sequencing of the cDNA for human monocyte chemotactic |
| RT | and activating factor (MCAF)."; |
| RL | BIOCHEM. BIOPHYS. RES. COMMUN. 159:249-255(1989). |
| RN | [2] |
| RP | SEQUENCE FROM N.A. |
| RX | MEDLINE; 90097880. |
| RA | ROLLINS B.J., STIER P., ERNST T., WONG G.G.; |
| RT | "The human homolog of the JE gene encodes a monocyte secretory |
| RT | protein."; |
| RL | MOL. CELL. BIOL. 9:4687-4695(1989). |
| RN | [3] |
| RP | SEQUENCE FROM N.A. |
| RX | MEDLINE; 89153605. |
| RA | YOSHIMURA T., YUHKI N., MOORE S.K., APPELLA E., LERMAN M.I., |
| RA | LEONARD E.J.; |
| RT | "Human monocyte chemoattractant protein-1 (MCP-1). Full-length cDNA |
| RT | cloning, expression in mitogen-stimulated blood mononuclear |
| RT | leukocytes, and sequence similarity to mouse competence gene JE."; |
| RL | FEBE LETT. 244:487-493(1989). |
| RN | [4] |
| RP | SEQUENCE FROM N.A. |
| RX | MEDLINE; 90290466. |
| RA | SHY Y.J., LI Y.S., KOLATTUKUDY P.E.; |
| RT | "Structure of human monocyte chemotactic protein gene and its |
| RT | regulation by TPA."; |
| RL | BIOCHEM. BIOPHYS. RES. COMMUN. 169:346-351(1990). |
| RN | [5] |
| RP | SEQUENCE FROM N.A. |

RX MEDLINE; 91207938.
RA CHANG H.C., HSU F., FREEMAN G.J., GRIFFIN J.D., REINHERZ E.L.;
RT "Cloning and expression of a gamma-interferon-inducible gene in
monocytes: a new member of a cytokine gene family.";
RL INT. IMMUNOL. 1:388-399(1989).
RN [6]
RP SEQUENCE FROM N.A.
RX MEDLINE; 94150478.
RA LI Y.S., SHY Y.J., WRIGHT J.G., VALENTE A.J., CORNHILL J.F.,
RA KOLATYKUDY P.E.;
RT "The expression of monocyte chemotactic protein (MCP-1) in human
vascular endothelium in vitro and in vivo.";
RL MOL. CELL. BIOCHEM. 126:61-68(1993).
RN [7]
RP SEQUENCE FROM N.A.
RX MEDLINE; 92095166.
RA YOSHIMURA T., LEONARD E.J.;
RT "Human monocyte chemoattractant protein-1 (MCP-1).";
RL ADV. EXP. MED. BIOL. 305:47-56(1991).
RN [8]
RP SEQUENCE OF 24-99.
RX MEDLINE; 89184525.
RA ROBINSON E.A., YOSHIMURA T., LEONARD E.J., TANAKA S., GRIFFIN P.R.,
RA SHABANOWITZ J., HUNT D.F., APPELLA E.;
RT "Complete amino acid sequence of a human monocyte chemoattractant, a
putative mediator of cellular immune reactions.";
RL PROC. NATL. ACAD. SCI. U.S.A. 86:1850-1854(1989).
RN [9]
RP SEQUENCE OF 29-53 AND 82-92.
RX MEDLINE; 90211336.
RA DECOCK B., CONINGS R., LENAERTS J.-P., BILIAU A., VAN DAMME J.;
RT "Identification of the monocyte chemotactic protein from human
osteosarcoma cells and monocytes: detection of a novel N-terminally
processed form.";
RL BIOCHEM. BIOPHYS. RES. COMMUN. 167:904-909(1990).
RN [10]
RP 3D-STRUCTURE MODELLING.
RX MEDLINE; 91312872.
RA GRONENBORN A.M., CLORE G.M.;
RT "Modelling the three-dimensional structure of the monocyte chemo-
attractant and activating protein MCP-1 on the basis of the
solution structure of interleukin-8.";
RL PROTEIN ENG. 4:263-269(1991).
RN [11]
RP X-RAY CRYSTALLOGRAPHY (1.85 ANGSTROMS).
RX MEDLINE; 97143315.
RA LUBKOWSKI J., BUJACZ G., DOMAILLE P.J., HANDEL T.M., WLODAWER A.;
RT "The structure of MCP-1 in two crystal forms provides a rare example
of variable quaternary interactions.";
RL NAT. STRUCT. BIOL. 4:64-69(1997).
RN [12]
RP STRUCTURE BY NMR.
RX MEDLINE; 96234959.
RA HANDEL T.M., DOMAILLE P.J.;
RT "Heteronuclear (1H, 13C, 15N) NMR assignments and solution structure
of the monocyte chemoattractant protein-1 (MCP-1) dimer.";
RL BIOCHEMISTRY 35:6569-6584(1996).
RN [13]
RP EFFECT OF DELETION OF N-TERMINAL RESIDUES.
RX MEDLINE; 96195223.
RA WEBER M., UGUCCIONI M., BAGGIOLINI M., CLARK-LEWIS I., DAHINDEN C.A.;
RT "Deletion of the NH2-terminal residue converts monocyte chemotactic
protein 1 from an activator of basophil mediator release to an
eosinophil chemoattractant.";
RL J. EXP. MED. 183:681-685(1996).
RN [14]
RP MUTAGENESIS.
RX MEDLINE; 94253189.
RA ZHANG Y.J., RUTLEDGE B.J., ROLLINS B.J.;
RT "Structure/activity analysis of human monocyte chemoattractant
protein-1 (MCP-1) by mutagenesis. Identification of a mutated protein
that inhibits MCP-1-mediated monocyte chemotaxis.";
RL J. BIOL. CHEM. 269:15918-15924(1994).

RN [15]
RP SUBUNIT.
RX MEDLINE; 97053697.
RA KIM K.-S., RAJARATHNAM K., CLARK-LEWIS I., SYKES B.D.;
RT "Structural characterization of a monomeric chemokine: monocyte
chemoattractant protein-3.";
RL FEBS LETT. 395:277-282(1996).
RN [16]
RP FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES AND BASOPHILS
BUT NOT NEUTROPHILS OR EOSINOPHILS. AUGMENTS MONOCYTE ANTI-TUMOR
ACTIVITY. HAS BEEN IMPLICATED IN THE PATHOGENESIS OF DISEASES
CHARACTERIZED BY MONOCYTIC INFILTRATES, LIKE PSORIASIS, RHEUMATOID
ARTHRITIS OR ATHEROSCLEROSIS. MAY BE INVOLVED IN THE RECRUITMENT
OF MONOCYTES INTO THE ARTERIAL WALL DURING THE DISEASE PROCESS OF
ATHEROSCLEROSIS.
RN [17]
RP SUBUNIT: MONOMER OR HOMODIMER; IN EQUILIBRIUM.
RX MEDLINE; 92095166.
RA YOSHIMURA T., LEONARD E.J.;
RT "Human monocyte chemoattractant protein-1 (MCP-1).";
RL ADV. EXP. MED. BIOL. 305:47-56(1991).
RN [18]
RP SEQUENCE OF 24-99.
RX MEDLINE; 89184525.
RA ROBINSON E.A., YOSHIMURA T., LEONARD E.J., TANAKA S., GRIFFIN P.R.,
RA SHABANOWITZ J., HUNT D.F., APPELLA E.;
RT "Complete amino acid sequence of a human monocyte chemoattractant, a
putative mediator of cellular immune reactions.";
RL PROC. NATL. ACAD. SCI. U.S.A. 86:1850-1854(1989).
RN [19]
RP SEQUENCE OF 29-53 AND 82-92.
RX MEDLINE; 90211336.
RA DECOCK B., CONINGS R., LENAERTS J.-P., BILIAU A., VAN DAMME J.;
RT "Identification of the monocyte chemotactic protein from human
osteosarcoma cells and monocytes: detection of a novel N-terminally
processed form.";
RL BIOCHEM. BIOPHYS. RES. COMMUN. 167:904-909(1990).
RN [20]
RP 3D-STRUCTURE MODELLING.
RX MEDLINE; 91312872.
RA GRONENBORN A.M., CLORE G.M.;
RT "Modelling the three-dimensional structure of the monocyte chemo-
attractant and activating protein MCP-1 on the basis of the
solution structure of interleukin-8.";
RL PROTEIN ENG. 4:263-269(1991).
RN [21]
RP X-RAY CRYSTALLOGRAPHY (1.85 ANGSTROMS).
RX MEDLINE; 97143315.
RA LUBKOWSKI J., BUJACZ G., DOMAILLE P.J., HANDEL T.M., WLODAWER A.;
RT "The structure of MCP-1 in two crystal forms provides a rare example
of variable quaternary interactions.";
RL NAT. STRUCT. BIOL. 4:64-69(1997).
RN [22]
RP STRUCTURE BY NMR.
RX MEDLINE; 96234959.
RA HANDEL T.M., DOMAILLE P.J.;
RT "Heteronuclear (1H, 13C, 15N) NMR assignments and solution structure
of the monocyte chemoattractant protein-1 (MCP-1) dimer.";
RL BIOCHEMISTRY 35:6569-6584(1996).
RN [23]
RP EFFECT OF DELETION OF N-TERMINAL RESIDUES.
RX MEDLINE; 96195223.
RA WEBER M., UGUCCIONI M., BAGGIOLINI M., CLARK-LEWIS I., DAHINDEN C.A.;
RT "Deletion of the NH2-terminal residue converts monocyte chemotactic
protein 1 from an activator of basophil mediator release to an
eosinophil chemoattractant.";
RL J. EXP. MED. 183:681-685(1996).
RN [24]
RP MUTAGENESIS.
RX MEDLINE; 94253189.
RA ZHANG Y.J., RUTLEDGE B.J., ROLLINS B.J.;
RT "Structure/activity analysis of human monocyte chemoattractant
protein-1 (MCP-1) by mutagenesis. Identification of a mutated protein
that inhibits MCP-1-mediated monocyte chemotaxis.";
RL J. BIOL. CHEM. 269:15918-15924(1994).

Query Match 100.0%; Score 84; DB 1; Length 99;
 Best Local Similarity 100.0%; Pred. No. 5.10e-07;
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 75 CADPKQKWQ 84
 QY 1 CADPKQKWQ 10

RESULT 2
 ID MCPA_BOVIN STANDARD; PRT; 99 AA.
 AC P28291;
 DT 01-DEC-1992 (REL. 24, CREATED)
 DT 01-DEC-1992 (REL. 24, LAST SEQUENCE UPDATE)
 DT 01-NOV-1995 (REL. 32, LAST ANNOTATION UPDATE)
 DE MONOCYTE CHEMOTACTIC PROTEIN 1A PRECURSOR (MCP-1A) (MCP-1) (ACIDIC
 DE SEMINAL FLUID PROTEIN).
 GN BOS TAURUS (BOVINE).
 OS EURARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC ARTIODACTYLA; RUMINANTIA; PECORA; BOVOIDEA; BOVIDAE; BOVINAE; BOS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE-SEMINAL PLASMA;
 RX MEDLINE; 92096117.
 RA WEMPE F., HENSCHEN A., SCHEIT K.H.;
 RT "Gene expression and cDNA cloning identified a major basic protein
 RT constituent of bovine seminal plasma as bovine
 RT monocyte-chemoattractant protein-1 (MCP-1).";
 RL DNA CELL BIOL. 10:671-679(1991).
 RN [2]
 RP SEQUENCE FROM N.A.
 RC TISSUE-SEMINAL PLASMA;
 RX MEDLINE; 92181448.
 RA WEMPE F., EINSPIANTER R., SCHEIT K.H.;
 RT "Characterization by cDNA cloning of the mRNA of a new growth factor
 RT from bovine seminal plasma: acidic seminal fluid protein.";
 RL BIOCHEM. BIOPHYS. RES. COMMUN. 183:232-237(1992).
 RN [3]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 94336337.
 RA WEMPE F., KUHLMANN J.K., SCHEIT K.H.;
 RT "Characterization of the bovine monocyte chemoattractant protein-1
 RT gene.";
 RL BIOCHEM. BIOPHYS. RES. COMMUN. 202:1272-1279(1994).
 CC -!- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES, BUT NOT
 CC NEUTROPHILS.
 CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
 CC C-C) (CHEMOKINE CC).
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 CC -----
 CC EMBL; L32659; G624394; -;
 CC EMBL; M84602; G163395; -;
 CC PIR; A39296; A39296.
 CC PIR; JC2336; JC2336.
 CC PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
 CC PFAM; PF00048; i18; 1.
 CC HSSP; P13500; 1DON.
 CC CYTOKINE; CHEMOTAXIS; SIGNAL; BY SIMILARITY.
 CC SIGNAL 1 23
 CC CHAIN 24 24
 CC MOD_RES 24 24
 CC PYRROLIDONE CARBOXYLIC ACID (BY
 CC SIMILARITY).
 CC DISULFID 34 59
 CC BY SIMILARITY.
 CC DISULFID 35 75
 CC BY SIMILARITY.
 CC SEQUENCE 99 AA; 11114 MW; C6F5821D CRC32;
 CC
 CC Query Match 100.0%; Score 84; DB 1; Length 99;
 CC Best Local Similarity 100.0%; Pred. No. 5.10e-07;
 CC Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Query Match 100.0%; Score 84; DB 1; Length 99;
 Best Local Similarity 100.0%; Pred. No. 5.10e-07;
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 75 CADPKQKWQ 84
 QY 1 CADPKQKWQ 10

RESULT 3
 ID MCP2_BOVIN STANDARD; PRT; 99 AA.
 AC Q09141;
 DT 01-NOV-1995 (REL. 32, CREATED)
 DT 01-NOV-1995 (REL. 32, LAST SEQUENCE UPDATE)
 DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
 DE MONOCYTE CHEMOTACTIC PROTEIN 2 PRECURSOR (MCP-2) (MONOCYTE
 DE CHEMOATTRACTANT PROTEIN 2).
 GN SCYAS OR MCP2.
 OS BOS TAURUS (BOVINE).
 OC EURARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC ARTIODACTYLA; RUMINANTIA; PECORA; BOVOIDEA; BOVIDAE; BOVINAE; BOS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 94114084.
 RA WEMPE F., HANES J., SCHEIT K.H.;
 RT "Cloning of the gene for bovine monocyte chemoattractant protein-2.";
 RL DNA CELL BIOL. 13:1-8(1994).
 CC -!- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES. THIS PROTEIN
 CC CAN BIND HEPARIN.
 CC -!- SUBUNIT: MONOMER OR HOMODIMER. IN EQUILIBRIUM (BY SIMILARITY).
 CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
 CC C-C) (CHEMOKINE CC).
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 CC or send an email to license@isb-sib.ch).
 CC -----
 CC EMBL; S67954; E118856; -;
 CC EMBL; S67956; G544997; -;
 CC PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
 CC PFAM; PF00048; i18; 1.
 CC HSSP; P80098; 1NCV.
 CC CYTOKINE; CHEMOTAXIS; SIGNAL; HEPARIN-BINDING; INFLAMMATORY RESPONSE.
 CC SIGNAL 1 23
 CC CHAIN 24 24
 CC MOD_RES 24 24
 CC MONOCYTE CHEMOTACTIC PROTEIN 2.
 CC PYRROLIDONE CARBOXYLIC ACID (BY
 CC SIMILARITY).
 CC DISULFID 34 59
 CC BY SIMILARITY.
 CC DISULFID 35 75
 CC BY SIMILARITY.
 CC SEQUENCE 99 AA; 10900 MW; 9BA2CD26 CRC32;
 CC
 CC Query Match 100.0%; Score 84; DB 1; Length 99;
 CC Best Local Similarity 100.0%; Pred. No. 5.10e-07;
 CC Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 75 CADPKQKWQ 84
 QY 1 CADPKQKWQ 10

RESULT 4
 ID MCP1_CANFA STANDARD; PRT; 101 AA.
 AC P52203;
 DT 01-OCT-1996 (REL. 34, CREATED)
 DT 01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)
 DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
 DE MONOCYTE CHEMOTACTIC PROTEIN 1 PRECURSOR (MCP-1) (MONOCYTE
 DE CHEMOATTRACTANT PROTEIN-1).
 GN SCYAS OR MCP1.

OS CANIS FAMILIARIS (DOG).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 CC CARNIVORA; FISSIPEDIA; CANIDAE; CANIS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE-JUGULAR VEIN ENDOTHELIAL;
 RX MEDLINE; 97176620.
 RA KOMAR A.G., BALLANTYNE C.M., MICHAEL L.H., KUKIELKA G.L., YOURER K.A.,
 RA LINDSEY M.L., HAWKINS H.K., BIRDSALL H.H., MACKAY C.R., LAROSA G.J.,
 RA ROSSEN R.D., SMITH C.W., ENTWAN M.L.;
 RT "Induction of monocyte chemoattractant protein-1 in the small veins
 of the ischemic and reperfused canine myocardium."
 RL CIRCULATION 95:693-700(1997).
 CC -1- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES, BUT NOT
 CC NEUTROPHILS. IMPORTANT FACTOR IN THE COURSE OF THE INFLAMMATORY
 CC REACTION TO REPERFUSION OF THE PREVIOUSLY ISCHEMIC MYOCARDIUM.
 CC MAY PLAY A SIGNIFICANT ROLE IN MONOCYTE TRAFFICKING INTO THE
 CC REPERFUSED MYOCARDIUM.
 CC -1- SUBUNIT: MONOMER OR HOMODIMER; IN EQUILIBRIUM (BY SIMILARITY).
 CC -1- INDUCTION: BY TNF-ALPHA.
 CC -1- TISSUE SPECIFICITY: ENDOTHELIUM OF SMALL VEINS AND INTRAFASCICULAR
 CC VEINS, AND INFILTRATING LEUKOCYTES.
 CC -1- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
 CC C-C) (CHEMOKINE CC).
 CC -----
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 CC or send an email to license@isb-sib.ch.
 CC -----
 CC EMBL: U29653; G1144186; -.
 DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
 DR PFAM; PF00048; i18; 1.
 DR HSSP; PI3500; 1DON.
 KW CYTOKINE; CHEMOTAXIS; SIGNAL; INFLAMMATORY RESPONSE.
 FT SIGNAL 1 23 BY SIMILARITY.
 FT CHAIN 24 101 MONOCYTE CHEMOTACTIC PROTEIN 1.
 FT MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID (BY
 FT SIMILARITY).
 FT DISULFID 34 59 BY SIMILARITY.
 FT DISULFID 35 75 BY SIMILARITY.
 FT CARBOHYD 40 40 POTENTIAL.
 FT CARBOHYD 55 55 POTENTIAL.
 FT CARBOHYD 112 112 POTENTIAL.
 SQ SEQUENCE 101 AA; 11121 MW; A7075B14 CRC32;

 Query Match 100.0%; Score 84; DB 1; Length 101;
 Best Local Similarity 100.0%; Pred. No. 5.10e-07;
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Db 75 CADPKQKWQ 84
 QY 1 CADPKQKWQ 10
 |||||
 RESULT 5
 ID MCP1_RABIT STANDARD; PRT; 125 AA.
 AC P28292.
 DT 01-DEC-1992 (REL. 24, CREATED)
 DT 01-DEC-1992 (REL. 24, LAST SEQUENCE UPDATE)
 DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
 DE MONOCYTE CHEMOTACTIC PROTEIN 1 PRECURSOR (MCP-1).
 GN SCY2.
 OS ORYCTOLAGUS CUNICULUS (RABBIT).
 CC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 CC LAGOMORPHA; LEPORIDAE; ORYCTOLAGUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN-NEW ZEALAND WHITE; TISSUE-SPLEEN;
 RX MEDLINE; 91225489.
 RA YOSHIMURA T., YUKKI N.;
 RT "Neutrophil attractant/activation protein-1 and monocyte
 RT chemoattractant protein-1 in rabbit. cDNA cloning and their

RT expression in spleen cells."
 RL J. IMMUNOL. 146:3483-3488(1991).
 CC -1- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES, BUT NOT
 CC NEUTROPHILS.
 CC -1- SUBUNIT: MONOMER OR HOMODIMER; IN EQUILIBRIUM (BY SIMILARITY).
 CC -1- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
 CC C-C) (CHEMOKINE CC).
 CC -----
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 CC or send an email to license@isb-sib.ch.
 CC -----
 CC EMBL: M57440; G165470; -.
 DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
 DR PFAM; PF00048; i18; 1.
 DR HSSP; PI3500; 1DON.
 KW CYTOKINE; CHEMOTAXIS; SIGNAL; INFLAMMATORY RESPONSE; GLYCOPROTEIN.
 FT SIGNAL 1 23 BY SIMILARITY.
 FT CHAIN 24 125 MONOCYTE CHEMOTACTIC PROTEIN 1.
 FT MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID (BY
 FT SIMILARITY).
 FT DISULFID 34 59 BY SIMILARITY.
 FT DISULFID 35 75 BY SIMILARITY.
 FT CARBOHYD 40 40 POTENTIAL.
 FT CARBOHYD 55 55 POTENTIAL.
 FT CARBOHYD 112 112 POTENTIAL.
 SQ SEQUENCE 125 AA; 13776 MW; FBAC9D27 CRC32;

 Query Match 100.0%; Score 84; DB 1; Length 125;
 Best Local Similarity 100.0%; Pred. No. 5.10e-07;
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Db 75 CADPKQKWQ 84
 QY 1 CADPKQKWQ 10
 |||||
 RESULT 6
 ID MCP1_PIG STANDARD; PRT; 99 AA.
 AC P42831;
 DT 01-NOV-1995 (REL. 32, CREATED)
 DT 01-NOV-1995 (REL. 32, LAST SEQUENCE UPDATE)
 DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
 DE MONOCYTE CHEMOTACTIC PROTEIN 1 PRECURSOR (MCP-1).
 GN SCY2.
 OS SUS SCROFA (PIG).
 CC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 CC ARTIODACTYLA; SUIFORMES; SUINA; SUIDAE; SUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 94183284.
 RA HOSANG K., KNOKE I., KLAUDINY J., WEMPE F., WUTTKE W., SCHEIT K.H.;
 RT "Porcine luteal cells express monocyte chemoattractant protein-1
 (MCP-1): analysis by polymerase chain reaction and cDNA cloning."
 RL BIOCHEM. BIOPHYS. RES. COMMUN. 199:962-968(1994).
 RN [2]
 RP SEQUENCE FROM N.A.
 RC TISSUE-BRAIN;
 RA ZACH O.R.F.;
 RL SUBMITTED (JUL-1994) TO EMBL/GENBANK/DBJ DATA BANKS.
 CC -1- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES, BUT NOT
 CC NEUTROPHILS.
 CC -1- SUBUNIT: MONOMER OR HOMODIMER; IN EQUILIBRIUM (BY SIMILARITY).
 CC -1- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
 CC C-C) (CHEMOKINE CC).
 CC -----
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EMBL: 248479; G683717; -
 EMBL: X79416; G872313; -
 PROSITE: PS00472; SMALL_CYTOKINES_CC; 1.
 PFAM: PF00048; i18; 1.
 HSP: PL3500; IDON.
 CYTOKINE; CHEMOTAXIS; SIGNAL; INFLAMMATORY RESPONSE.
 SIGNAL 1 23 BY SIMILARITY.
 CHAIN 24 99 MONOCYTE CHEMOTACTIC PROTEIN 1.
 MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID (BY SIMILARITY).
 DISULFID 34 59 BY SIMILARITY.
 DISULFID 35 75 BY SIMILARITY.
 SEQUENCE 99 AA; 10976 MW; ECC3AFB4 CRC32;

Query Match 98.8%; Score 83; DB 1; Length 99;
 Best Local Similarity 90.0%; Pred. No. 8.92e-07;
 Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Db 75 CAEPKQKWQ 84
 ||:|||||||
 Qy 1 CADPKQKWQ 10

RESULT 7 STANDARD; PRT; 98 AA.
 ID MCP4_HUMAN
 AC Q99616;
 DT 15-JUL-1998 (REL. 36, CREATED)
 DT 15-JUL-1998 (REL. 36, LAST SEQUENCE UPDATE)
 DT 15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)
 DE MONOCYTE CHEMOTACTIC PROTEIN 4 PRECURSOR (MCP-4) (MONOCYTE CHEMOATTRACTANT PROTEIN 4) (CK-BETA10) (NCC-1).
 OS SCAL3 OR MCP4 OR NCC1.
 GN HOMO SAPIENS (HUMAN).
 OC EUKARYOTA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC PRIMATES; CATARRHINI; HOMINIDAE; HOMO.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=HEART;
 RX MEDLINE; 97113354.
 RA GARCIA-ZEPEDA E.A., COMBADIERE C., ROTHENBERG M.E., SARAFI M.N., LAVIGNE F., HAMID Q., MURPHY P.M., LUSTER A.D.;
 RT "Human monocyte chemoattractant protein (MCP)-4 is a novel CC chemokine with activities on monocytes, eosinophils, and basophils induced in allergic and nonallergic inflammation that signals through the CC chemokine receptors (CCR)-2 and -3.";
 RL J. IMMUNOL. 157:5613-5626(1996).
 RN [2]
 RP SEQUENCE FROM N.A., AND SEQUENCE OF 17-98.
 RC TISSUE=FETAL;
 RX MEDLINE; 96235049.
 RA UGUCCIONI M., LOETSCHER P., FORSSMANN U., DEWALD B., LI H., LIMA S.H., LI Y., KREIDER B., GAROTTA G., THELEN M., BAGGIOLINI M.;
 RT "Monocyte chemotactic protein 4 (MCP-4), a novel structural and functional analogue of MCP-3 and eotaxin.";
 RL J. EXP. MED. 183:2379-2384(1996).
 RN [3]
 RP SEQUENCE FROM N.A., AND SEQUENCE OF 22-33.
 RC TISSUE=FETAL;
 RX MEDLINE; 97341179.
 RA BERKHOUT T.A., REAPE T.J., BRANNER M., MAKWANA J., FOLEY J.J., APPELBAUM E., IMBURGIA C., MACNULTY D., MATTHEWS J., O'DONNELL K., RA SCHMIDT D.B., SCOTT M., GROOT P.H.E., MACPHEE C.;
 RA O'SHANNESSEY D.,
 RT "Cloning, in vitro expression, and functional characterization of a novel human CC chemokine of the monocyte chemotactic protein (MCP) family (MCP-4) that binds and signals through the CC chemokine receptor 2B.";
 RL J. BIOL. CHEM. 272:16404-16413(1997).

RN SEQUENCE FROM N.A.
 RP DANIE M., GIBSON A.;
 RL SUBMITTED (AUG-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [5]
 RP SEQUENCE FROM N.A.
 RC TISSUE=LUNG;
 RA POWER C.A., MEYER A., RISON S.C.G., GUYE-COULIN F., WELLS T.N.C.;
 RL SUBMITTED (DEC-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 CC -1- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES, LYMPHOCYTES, BASOPHILS AND EOSINOPHILS, BUT NOT NEUTROPHILS. SIGNALS THROUGH CCR2B AND CCR3 RECEPTORS. PLAYS A ROLE IN THE ACCUMULATION OF LEUKOCYTES AT BOTH SIDES OF ALLERGIC AND NONALLERGIC INFLAMMATION. MAY BE INVOLVED IN THE RECRUITMENT OF MONOCYTES INTO THE ARTERIAL WALL DURING THE DISEASE PROCESS OF ARTEROSCLEROSIS. MAY PLAY A ROLE IN THE MONOCYTE ATTRACTION IN TISSUES CHRONICALLY EXPOSED TO EXOGENOUS PATHOGENS.
 CC -1- MASS SPECTROMETRY: MW=9314; MW_ERR=30; METHOD=MALDI; RANGE=17-98.
 CC -1- MASS SPECTROMETRY: MW=8750; MW_ERR=30; METHOD=MALDI; RANGE=22-98.
 CC -1- MASS SPECTROMETRY: MW=8575; MW_ERR=30; METHOD=MALDI; RANGE=24-98.
 CC -1- INDUCTION: BY INTERLEUKIN-1 AND TNF-ALPHA.
 CC -1- TISSUE SPECIFICITY: WIDELY EXPRESSED. FOUND IN SMALL INTESTINE, THYMUS, COLON, LUNG, TRACHEA, STOMACH AND LYMPH NODE. LOW LEVELS SEEN IN THE PULMONARY ARTERY SMOOTH MUSCLE CELLS.
 CC -1- THIS PROTEIN CAN BIND HEPARIN.
 CC -1- PTM: ONE MAJOR ISOFORM MCP-4, AND TWO MINOR ISOFORMS (LA)MCP-4 AND (FNPG)MCP-4 ARE PRODUCED BY DIFFERENTIAL SIGNAL CLEAVAGE.
 CC (LA)MCP-4 IS ABOUT 30 FOLD LESS ACTIVE THAN MCP-4.
 CC -1- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE C-C) (CHEMOKINE CC).
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EMBL: U46767; G1732123; -
 EMBL: AC002482; G2340091; -
 EMBL: X98306; E248571; -
 MIM: 601391; -
 PROSITE: PS00472; SMALL_CYTOKINES_CC; 1.
 PFAM: PF00048; i18; 1.
 HSP: PL3500; IDOL.
 CYTOKINE; CHEMOTAXIS; SIGNAL; GLYCOPROTEIN; INFLAMMATORY RESPONSE.
 SIGNAL 1 23
 CHAIN 24 98 MONOCYTE CHEMOTACTIC PROTEIN 4.
 MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID.
 DISULFID 34 58 BY SIMILARITY.
 DISULFID 35 74 BY SIMILARITY.
 CARBOHYD 29 29 POTENTIAL.
 SEQUENCE 98 AA; 10986 MW; DF52F6EC CRC32;

Query Match 95.2%; Score 80; DB 1; Length 98;
 Best Local Similarity 90.0%; Pred. No. 4.71e-06;
 Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Db 74 CADPKQKWQ 83
 |||||:|||||
 Qy 1 CADPKQKWQ 10

RESULT 8 STANDARD; PRT; 96 AA.
 ID EOTA_CAVPO
 AC P80325;
 DT 01-JUN-1994 (REL. 29, CREATED)
 DT 01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)
 DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
 DE EOTAXIN PRECURSOR (EOSINOPHIL CHEMOTACTIC PROTEIN).
 GN SCY11.
 OS CAVIA PORCELLUS (GUINEA PIG).

OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 RN RODENTIA; HYSTRICOGNATHI; CAVIIDAE; CAVIA.
 RC [1]
 RC SEQUENCE FROM N.A.
 RC TISSUE=LUNG;
 RX MEDLINE; 95173589.
 RA ROTHENBERG M.E., LUSTER A.D., LILLY C.M., DRAZEN J.M., LEDER P.;
 RT "Constitutive and allergen-induced expression of eotaxin mRNA in the
 RT guinea pig lung.";
 RL J. EXP. MED. 181:1211-1216(1995).
 RN [2]
 RN SEQUENCE FROM N.A.
 RX MEDLINE; 95091818.
 RA JOSE P.J., ADCOCK I.M., GRIFFITHS-JOHNSON D.A., BERKMAN N.,
 RT WELLS T.C., WILLIAMS T.J., POWER C.A.;
 RT "Eotaxin: cloning of an eosinophil chemoattractant cytokine and
 RT increased mRNA expression in allergen-challenged guinea-pig lungs.";
 RL BIOCHEM. BIOPHYS. RES. COMMUN. 205:788-794(1994).
 RN [3]
 RN SEQUENCE OF 24-96.
 RC STRAIN-HARTLEY; TISSUE=LUNG;
 RX MEDLINE; 94157409.
 RA JOSE P.J., GRIFFITHS-JOHNSON D.A., COLLINS P.D., WALSH D.T.,
 RT MOOREL R., TOTTI N.F., TRUONG O., HSUAN J.J., WILLIAMS T.J.;
 RT "Eotaxin: a potent eosinophil chemoattractant cytokine detected in a
 RT guinea pig model of allergic airways inflammation.";
 RL J. EXP. MED. 179:881-887(1994).
 CC -!- FUNCTION: IN RESPONSE TO THE PRESENCE OF ALLERGENS, THIS PROTEIN
 CC DIRECTLY PROMOTES THE ACCUMULATION OF EOSINOPHILS, A PROMINENT
 CC FEATURE OF ALLERGIC INFLAMMATORY REACTIONS.
 CC -!- SUBCELLULAR LOCATION: EXTRACELLULAR.
 CC -!- TISSUE SPECIFICITY: LUNG.
 CC -!- PTM: O-GLYCOSYLATED (PROBABLE).
 CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
 CC C-C) (CHEMOKINE CC).
 CC -----
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 CC -----
 DR EMBL; U18941; G687656;
 DR EMBL; X77603; G602552;
 DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
 DR PFAM; PF00048; I18; 1.
 DR HSP; P13500; IMCA.
 KW EOSINOPHIL; CYTOKINE; CHEMOTAXIS; GLYCOPROTEIN; SIGNAL;
 FT INFLAMMATORY RESPONSE.
 FT SIGNAL 1 23
 FT CHAIN 24 96
 FT DISULFID 31 56
 FT BY SIMILARITY.
 FT DISULFID 32 72
 FT CARBOHYD 93 93
 FT POTENTIAL.
 FT CONFLICT 88 88
 FT D-> G (IN REF. 2).
 SQ SEQUENCE 96 AA; 10753 MW; DD28C7E5 CRC32;
 Query Match 91.7%; Score 77; DB 1; Length 96;
 Best Local Similarity 90.0%; Pred. No. 2.43e-05;
 Matches 9; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
 Db 72 CADPKKKWQ 81
 QY 1 CADPKKKWQ 10
 RESULT 9
 ID EOTA_HUMAN STANDARD; PRT; 97 AA.
 AC P51671; P50877; Q92490; Q92491;
 DT 01-OCT-1996 (REL. 34, CREATED)
 DT 01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)

DT 15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)
 DE EOTAXIN PRECURSOR (EOSINOPHIL CHEMOTACTIC PROTEIN).
 GN SCVALL.
 OS HOMO SAPIENS (HUMAN).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC PRIMATES; CATARRHINI; HOMINIDAE; HOMO.
 RN [1]
 RN SEQUENCE FROM N.A.
 RX MEDLINE; 96181758.
 RA GARCIA-ZEPEDA E.A., ROTHENBERG M.E., OWNBEY T.R., LEDER P.,
 RA LUSTER A.D.;
 RT "Human eotaxin is a specific chemoattractant for eosinophil cells and
 RT provides a new mechanism to explain tissue eosinophilia.";
 RL NAT. MED. 2:449-456(1996).
 RN [2]
 RN SEQUENCE FROM N.A.
 RX MEDLINE; 96189937.
 RA PONATH P.D., QIN S., RINGLER D.J., CLARK-LEWIS I., WANG J., KASSAM N.,
 RA SMITH H., SHI X., GONZALO J.A., NEWMAN W., GUTIERREZ-RAMOS J.C.,
 RA MACKAY C.R.;
 RT "Cloning of the human eosinophil chemoattractant, eotaxin.
 RT Expression, receptor binding, and functional properties suggest a
 RT mechanism for the selective recruitment of eosinophils.";
 RL J. CLIN. INVEST. 97:604-612(1996).
 RN [3]
 RN SEQUENCE FROM N.A.
 RC TISSUE=SMALL INTESTINE;
 RX MEDLINE; 96205964.
 RA KITaura M., NAKAJIMA T., IMAI T., HARADA S., COMBADIÈRE C.,
 RA TIFFANY H.L., MURPHY P.M., YOSHIE O.;
 RT "Molecular cloning of human eotaxin, an eosinophil-selective CC
 RT chemokine, and identification of a specific eosinophil eotaxin
 RT receptor, CC chemokine receptor 3.";
 RL J. BIOL. CHEM. 271:7725-7730(1996).
 RN [4]
 RN SEQUENCE FROM N.A., SEQUENCE OF 60-65 AND 75-88, AND VARIANTS.
 RC TISSUE=FORESKIN;
 RX MEDLINE; 96374440.
 RA BARTELS J., SCHLUETER C., RICHTER E., NOSO N., KULKE R.,
 RA CHRISTOPHERS E., SCHROEDER J.M.;
 RT "Human dermal fibroblasts express eotaxin: molecular cloning, mRNA
 RT expression, and identification of eotaxin sequence variants.";
 RL BIOCHEM. BIOPHYS. RES. COMMUN. 225:1045-1051(1996).
 RN [5]
 RN SEQUENCE FROM N.A.
 RC TISSUE=PLACENTA;
 RX MEDLINE; 97312708.
 RA GARCIA-ZEPEDA E.A., ROTHENBERG M.E., WEREMOWICZ S., SARAFI M.N.,
 RA MORTON C.C., LUSTER A.D.;
 RT "Genomic organization, complete sequence, and chromosomal location of
 RT the gene for human eotaxin (SCVALL), an eosinophil-specific CC
 RT chemokine.";
 RL GENOMICS 41:471-476(1997).
 RN [6]
 RN SEQUENCE FROM N.A.
 RC TISSUE=LUNG;
 RX MEDLINE; 97445071.
 RA HEIN H., SCHLUETER C., KULKE R., CHRISTOPHERS E., SCHROEDER J.M.,
 RA BARTELS J.;
 RT "Genomic organization, sequence, and transcriptional regulation of
 RT the human eotaxin gene.";
 RL BIOCHEM. BIOPHYS. RES. COMMUN. 237:537-542(1997).
 RN [7]
 RN STRUCTURE BY NMR.
 RX MEDLINE; 98380469.
 RA CRUMP M.P., RAJARATHNAM K., KIM K.S., CLARK-LEWIS I., SYKES B.D.;
 RT "Solution structure of eotaxin, a chemokine that selectively recruits
 RT eosinophils in allergic inflammation.";
 RL BIOCHEMISTRY 37:11670-11678(1998).
 CC -!- FUNCTION: IN RESPONSE TO THE PRESENCE OF ALLERGENS, THIS PROTEIN
 CC DIRECTLY PROMOTES THE ACCUMULATION OF EOSINOPHILS, A PROMINENT
 CC FEATURE OF ALLERGIC INFLAMMATORY REACTIONS.
 CC -!- SUBCELLULAR LOCATION: EXTRACELLULAR.

CC -!- PTM: O-GLYCOSYLATED (PROBABLE).
 CC -!- INDUCTION: BY TNF-ALPHA, IL-1-ALPHA AND INTERFERON GAMMA.
 CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
 CC C-C) (CHEMOKINE CC).
 CC
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 CC -----

CC EMBL: U46573; G1280141; -
 CC DR EMBL: U34780; G1185440; -
 CC DR EMBL: U49372; G1552241; -
 CC DR EMBL: D69291; E221070; -
 CC DR EMBL: Z75668; E251275; -
 CC DR EMBL: Z75669; E251258; -
 CC DR EMBL: U46572; G2088509; -
 CC DR EMBL: Z92709; E329504; -
 CC DR MIM: 601156; -
 CC DR PROSITE: PS00472; SMALL_CYTOKINES_CC; 1.
 CC DR PFAM: PF00048; i18; 1.
 CC DR PDB: 2EOT; 11-NOV-98.
 CC KW EOSINOPHIL; CYTOKINE; CHEMOTAXIS; GLYCOPROTEIN; SIGNAL;
 CC KW INFLAMMATORY RESPONSE; POLYMORPHISM; 3D-STRUCTURE.
 CC FT SIGNAL 1 23
 CC FT CHAIN 24 97
 CC FT DISULFID 32 57
 CC FT VARIANT 7 7
 CC FT VARIANT 23 23 L -> P (IN CLONE 34).
 CC FT VARIANT 51 51 A -> T (IN CLONE 53).
 CC FT VARIANT 51 51 R -> S (IN CLONE 34).
 CC FT VARIANT 79 79 K -> R (IN CLONE 53).
 CC FT SEQUENCE 97 AA; 10732 MW; 6C0F3D98 CRC32;
 CC SQ

Query Match 91.7%; Score 77; DB 1; Length 97;
 Best Local Similarity 90.0%; Pred. No. 2.43e-05;
 Matches 9; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
 Db 73 CADPKKKVQ 82
 QY 1 CADPKKKVQ 10
 ||||| |||||
 RESULT 10
 ID EOTA-RAT STANDARD; PRT; 97 AA.
 AC P97545; O08780;
 DT 15-JUL-1998 (REL. 36, CREATED)
 DT 15-JUL-1998 (REL. 36, LAST SEQUENCE UPDATE)
 DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
 DE EOTAXIN PRECURSOR (EOSINOPHIL CHEMOTACTIC PROTEIN).
 OS RATTUS NORVEGICUS (RAT).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; RATTUS.
 RN [1]
 RN SEQUENCE FROM N.A.
 RP WILLIAMS C.M., NEWTON D.J., WILSON S.A., COLEMAN J.C.,
 RA FLANAGAN B.F.;
 RL SUBMITTED (DEC-1996) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [2]
 RN SEQUENCE FROM N.A.
 RP TISSUE-LUNG;
 RC ISHII Y.;
 RA SUBMITTED (MAY-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 CC -!- FUNCTION: IN RESPONSE TO THE PRESENCE OF ALLERGENS, THIS PROTEIN
 CC DIRECTLY PROMOTES THE ACCUMULATION OF EOSINOPHILS, A PROMINENT
 CC FEATURE OF ALLERGIC INFLAMMATORY REACTIONS (BY SIMILARITY).
 CC -!- SUBCELLULAR LOCATION: EXTRACELLULAR.
 CC -!- PTM: O-GLYCOSYLATED (PROBABLE).
 CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
 CC C-C) (CHEMOKINE CC).

Query Match 91.7%; Score 77; DB 1; Length 97;
 Best Local Similarity 90.0%; Pred. No. 2.43e-05;
 Matches 9; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
 Db 73 CADPKKKVQ 82
 QY 1 CADPKKKVQ 10
 ||||| |||||

RESULT 10
 ID EOTA-RAT STANDARD; PRT; 97 AA.
 AC P97545; O08780;
 DT 15-JUL-1998 (REL. 36, CREATED)
 DT 15-JUL-1998 (REL. 36, LAST SEQUENCE UPDATE)
 DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
 DE EOTAXIN PRECURSOR (EOSINOPHIL CHEMOTACTIC PROTEIN).
 OS RATTUS NORVEGICUS (RAT).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; RATTUS.
 RN [1]
 RN SEQUENCE FROM N.A.
 RP WILLIAMS C.M., NEWTON D.J., WILSON S.A., COLEMAN J.C.,
 RA FLANAGAN B.F.;
 RL SUBMITTED (DEC-1996) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [2]
 RN SEQUENCE FROM N.A.
 RP TISSUE-LUNG;
 RC ISHII Y.;
 RA SUBMITTED (MAY-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 CC -!- FUNCTION: IN RESPONSE TO THE PRESENCE OF ALLERGENS, THIS PROTEIN
 CC DIRECTLY PROMOTES THE ACCUMULATION OF EOSINOPHILS, A PROMINENT
 CC FEATURE OF ALLERGIC INFLAMMATORY REACTIONS (BY SIMILARITY).
 CC -!- SUBCELLULAR LOCATION: EXTRACELLULAR.
 CC -!- PTM: O-GLYCOSYLATED (PROBABLE).
 CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
 CC C-C) (CHEMOKINE CC).

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 CC or send an email to license@isb-sib.ch).
 CC -----

CC EMBL: Y08358; E274141; -
 CC DR EMBL: Y06637; G2098785; -
 CC DR PROSITE: PS00472; SMALL_CYTOKINES_CC; 1.
 CC DR PFAM: PF00048; i18; 1.
 CC DR HSP: P80098; INCV.
 CC DR EOSINOPHIL; CYTOKINE; CHEMOTAXIS; GLYCOPROTEIN; SIGNAL;
 CC KW INFLAMMATORY RESPONSE.
 CC FT SIGNAL 1 23
 CC FT CHAIN 24 97
 CC FT DISULFID 32 57
 CC FT DISULFID 33 73
 CC FT CARBOHYD 94 94
 CC FT CONFLICT 3 3
 CC FT SEQUENCE 97 AA; 10851 MW; 05B4ED45 CRC32;
 CC SQ

Query Match 91.7%; Score 77; DB 1; Length 97;
 Best Local Similarity 90.0%; Pred. No. 2.43e-05;
 Matches 9; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
 Db 73 CADPKKKVQ 82
 QY 1 CADPKKKVQ 10
 ||||| |||||

RESULT 11
 ID EOTA-MOUSE STANDARD; PRT; 97 AA.
 AC P48298;
 DT 01-FEB-1996 (REL. 33, CREATED)
 DT 01-FEB-1996 (REL. 33, LAST SEQUENCE UPDATE)
 DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
 DE EOTAXIN PRECURSOR (EOSINOPHIL CHEMOTACTIC PROTEIN).
 GN SCY11.
 OS MUS MUSCULUS (MOUSE).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; MUS.
 RN [1]
 RN SEQUENCE FROM N.A.
 RP TISSUE-LUNG;
 RC MEDLINE; 96004658.
 RA ROTHENBERG M.E., LUSTER A.D., LEDER P.;
 RT "Murine eotaxin: an eosinophil chemoattractant inducible in
 RT endothelial cells and in interleukin 4-induced tumor suppression.";
 RL PROC. NATL. ACAD. SCI. U.S.A. 92:8960-8964(1995).
 RN [2]
 RN SEQUENCE FROM N.A.
 RP STRAIN-C57BL/6J; TISSUE-LUNG;
 RC MEDLINE; 96158746.
 RA GONZALO J.-A., JIA G.-Q., AGUIRRE V., FRIEND D., COYLE A.J.,
 RA JENKINS N.A., LIN G.-S., KATZ H., LICHTMAN A., COPELAND N.G., KOPF M.,
 RA GUTIERREZ-RAMOS J.-C.;
 RT "Mouse eotaxin expression parallels eosinophil accumulation during
 RT lung allergic inflammation but it is not restricted to a Th2-type
 RT response";
 RL IMMUNITY 4:1-14(1996).
 CC -!- FUNCTION: IN RESPONSE TO THE PRESENCE OF ALLERGENS, THIS PROTEIN
 CC DIRECTLY PROMOTES THE ACCUMULATION OF EOSINOPHILS (A PROMINENT
 CC FEATURE OF ALLERGIC INFLAMMATORY REACTIONS), BUT NOT
 CC LYMPHOCYTES, MACROPHAGES OR NEUTROPHILS.
 CC -!- SUBCELLULAR LOCATION: EXTRACELLULAR.
 CC -!- TISSUE SPECIFICITY: EXPRESSED CONSTITUTIVELY IN THE THYMUS.
 CC EXPRESSION INDUCIBLE IN THE LUNG (TYPE I ALVEOLAR EPITHELIAL
 CC CELLS), INTESTINE, HEART, SPLEEN, KIDNEY.
 CC -!- INDUCTION: BY INTERFERON-GAMMA AND LIPOPOLYSACCHARIDE (LPS).
 CC -!- PTM: O-GLYCOSYLATED (PROBABLE).

Sat Feb 5 12:04:57 2000

```

ID  M2P2_PIG          STANDARD;          PRT;          99 AA.
AC  P49873;
DT  01-OCT-1996 (REL. 34, CREATED)
DT  01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)
DT  15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
DE  MONOCYTE CHEMOTACTIC PROTEIN 2 PRECURSOR (MCP-2) (MONOCYTE
DE  CHEMOATTRACTANT PROTEIN 2).
GN  SCYA8 OR MCP2.
OS  SUS SCROFA (PIG).
OC  EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC  ARTIODACTYLIA; SULIFORMES; SUINA; SUIDAE; SUS.
RN  [1]
RP  SEQUENCE FROM N.A.
RX  MEDLINE; 95091716.
RA  HOSANG K.K., KNOKE I.I., KLAUDINY J.J., WEMPE F.F., WUTKE W.W.,
RA  SCHEIT K.K.;
RT  "Porcine luteal cells express monocyte chemoattractant protein-2
RT  (MCP-2): analysis by cDNA cloning and northern analysis.";
RL  BIOCHEM. BIOPHYS. RES. COMMUN. 205:148-153(1994).
CC  -|- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES. THIS PROTEIN
CC  CAN BIND HEPARIN.
CC  -|- SUBUNIT: MONOMER OR HOMODIMER; IN EQUILIBRIUM (BY SIMILARITY).
CC  -|- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
CC  C-C) (CHEMOKINE CC).
CC  -----
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CC  entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC  or send an email to license@isb-sib.ch).
CC  -----
CC  EMBL; L04985; G349821;
DR  PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
DR  PFAM; PF00048; i18; 1.
DR  HSSP; P80098; INCV.
KW  CYTOKINE; CHEMOTAXIS; SIGNAL; INFLAMMATORY RESPONSE; GLYCOPROTEIN.
FT  SIGNAL 1 23
FT  CHAIN 24 120 MONOCYTE CHEMOTACTIC PROTEIN 1.
FT  MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID (BY
FT  SIMILARITY).
FT  DISULFID 33 57
FT  DISULFID 34 73 BY SIMILARITY.
FT  CARBOHYD 97 97 POTENTIAL.
FT  SEQUENCE 120 AA; 13741 MW; 22FAD257 CRC32;
SQ
Query Match 91.7%; Score 77; DB 1; Length 120;
Best Local Similarity 90.0%; Pred. No. 2.43e-05;
Matches 9; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Db  73 CADPTQKWVQ 82
    ||||| |||||
QY  1 CADPKQKWVQ 10

RESULT 15
ID  M1A_RAT          STANDARD;          PRT;          92 AA.
AC  P50229;
DT  01-OCT-1996 (REL. 34, CREATED)
DT  01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)
DT  01-NOV-1997 (REL. 35, LAST ANNOTATION UPDATE)
DE  MACROPHAGE INFLAMMATORY PROTEIN 1-ALPHA PRECURSOR (MIP-1-ALPHA).
DE  SCYA3 OR MIP1A.
GN  RATTUS NORVEGICUS (RAT).
OS  RATTUS NORVEGICUS; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC  EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC  RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; RATTUS.
RN  [1]
RP  SEQUENCE FROM N.A.
RX  STRAIN-CD-1; TISSUE=LUNG;
RX  MEDLINE; 95298037.
RA  SHI M.M., GODLESKI J.J., PAULASKIS J.D.;
RT  "Molecular cloning and posttranscriptional regulation of macrophage
RT  inflammatory protein-1 alpha in alveolar macrophages.";
RL  BIOCHEM. BIOPHYS. RES. COMMUN. 211:289-295(1995).
RN  [2]
RP  SEQUENCE FROM N.A.
RX  STRAIN=LONG EVANS; TISSUE=LUNG;
RX  MEDLINE; 95238980.
RA  SHANLEY T.P., SCHMAL H., FRIEDL H.P., JONES M.L., WARD P.A.;
RT  "Role of macrophage inflammatory protein-1 alpha (MIP-1 alpha) in
RT  acute lung injury in rats.";
RL  J. IMMUNOL. 154:4793-4802(1995).
RN  [3]
RP  SEQUENCE OF 24-57.
RX  STRAIN=WISTAR;
RX  MEDLINE; 96183056.
RA  NAKAGAWA H., SHIOTA S., TAKANO K., SHIBATA F., KATO H.;
RT  "Cytokine-induced neutrophil chemoattractant (CINC)-2 alpha, a novel
RT  member of rat GRO/CINC3, is a predominant chemokine produced by

ID  MCP1_CAVPO      STANDARD;          PRT;          120 AA.
AC  Q08782;
DT  01-NOV-1995 (REL. 32, CREATED)
DT  01-NOV-1995 (REL. 32, LAST SEQUENCE UPDATE)
DT  15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
DE  MONOCYTE CHEMOTACTIC PROTEIN 1 PRECURSOR (MCP-1) (MONOCYTE
DE  CHEMOATTRACTANT PROTEIN-1).
GN  SCVA2 OR MCP1.
OS  CAVIA PORCELLUS (GUINEA PIG).
OC  EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC  RODENTIA; HYSTRICOGNATHI; CAVIIDAE; CAVIA.
RN  [1]
RP  SEQUENCE FROM N.A.
RX  STRAIN=2; TISSUE=SPLEEN;
RX  MEDLINE; 93267104.
RA  YOSHIMURA T.;
RT  "cDNA cloning of guinea pig monocyte chemoattractant protein-1 and

```

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RT lipopolysaccharide-stimulated rat macrophages in culture.";
RL BIOCHEM. BIOPHYS. RES. COMMON. 220:945-948(1996).
CC -!- FUNCTION: MONOKINE WITH INFLAMMATORY AND CHEMOKINETIC PROPERTIES.
CC HAS CHEMOTACTIC ACTIVITY FOR MONOCYTES, NEUTROPHILS, EOSINOPHILS,
CC BASOPHILS, AND LYMPHOCYTES. REQUIRED FOR LUNG TNF-ALPHA
CC PRODUCTION, NEUTROPHIL RECRUITMENT AND SUBSEQUENT LUNG INJURY AND
CC MAY FUNCTION AS AN AUTOCRINE MEDIATOR FOR THE MACROPHAGE
CC PRODUCTION OF TNF-ALPHA WHICH IN TURN UP-REGULATES VASCULAR
CC ADHESION MOLECULES REQUIRED FOR NEUTROPHIL INFUX. THIS PROTEIN
CC BINDS HEPARIN.
CC -!- INDUCTION: BY LIPOLYSACCHARIDE (LPS).
CC -!- SIMILARITY: BELONGS TO THE INTERGRIN BETA FAMILY (SMALL CYTOKINE
CC C-C) (CHEMOKINE CC).
CC -----
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CC -----
DR EMBL; U22414; G790633; -
DR EMBL; U06435; G459150; -
DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
DR PFAM; PF00048; I18; 1.
DR HSP; P13236; LHON.
KW CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL; HEPARIN-BINDING.
FT SIGNAL 1 23
FT CHAIN 24 92 MACROPHAGE INFLAMMATORY PROTEIN 1-ALPHA.
FT DISULFID 34 57 BY SIMILARITY.
FT DISULFID 35 73 BY SIMILARITY.
FT CONFLICT 6 6 A -> T (IN REF. 2).
FT CONFLICT 57 57 C -> W (IN REF. 2 AND 3).
SQ SEQUENCE 92 AA; 10335 MW; F48CF89F CRC32;

Query Match 86.9%; Score 73; DB 1; Length 92;
Best Local Similarity 80.0%; Pred. NO. 2.07e-04;
Matches 8; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 73 CADPKETWVQ 82
QY 1 CADPKOKWVQ 10

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Search completed: Fri Feb 4 16:59:28 2000
Job time : 6 secs.

W P E H (TM)

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MPsrch_pp protein - protein database search, using Smith-Waterman algorithm

Run on: Fri Feb 4 16:58:49 2000; Maspar time 3.53 Seconds
113.540 Million cell updates/sec

Tabular output not generated.

Title: >US-09-150-813-7
Description: (1-10) from US09150813.ppt
Perfect Score: 84
Sequence: 1 CADPKQKWVQ 10

Scoring table: PAM 150
Gap 15

Searched: 122810 seqs, 40068593 residues

Post-processing: Minimum Match 0%
Listing first 45 summaries

Database: pir60
1:pir1 2:pir2 3:pir3 4:pir4

Statistics: Mean 23.976; Variance 35.473; scale 0.676

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Match | Length | ID | Description | Pred. No. |
|------------|-------|-------|--------|----|--------------------------|-----------|
| 1 | 84 | 100.0 | 99 | 2 | monocyte chemoattractant | 7.50e-06 |
| 2 | 84 | 100.0 | 99 | 2 | monocyte chemoattractant | 7.50e-06 |
| 3 | 84 | 100.0 | 99 | 2 | monocyte chemoattractant | 7.50e-06 |
| 4 | 84 | 100.0 | 125 | 2 | monocyte chemoattractant | 7.50e-06 |
| 5 | 83 | 98.8 | 96 | 2 | monocyte chemoattractant | 1.23e-05 |
| 6 | 77 | 91.7 | 96 | 2 | eotaxin precursor - g | 2.34e-04 |
| 7 | 77 | 91.7 | 96 | 2 | eotaxin precursor - r | 2.34e-04 |
| 8 | 77 | 91.7 | 99 | 2 | monocyte chemoattractant | 2.34e-04 |
| 9 | 77 | 91.7 | 109 | 2 | monocyte chemoattractant | 2.34e-04 |
| 10 | 77 | 91.7 | 120 | 2 | eotaxin precursor - h | 9.86e-04 |
| 11 | 74 | 88.1 | 97 | 2 | macrophage inflammatory | 1.58e-03 |
| 12 | 73 | 86.9 | 92 | 2 | interleukin-8 - dog | 1.58e-03 |
| 13 | 73 | 86.9 | 95 | 2 | interleukin-8 - rabbit | 1.58e-03 |
| 14 | 73 | 86.9 | 101 | 2 | interleukin-8 - sheep | 1.58e-03 |
| 15 | 73 | 86.9 | 101 | 2 | interleukin-8 - sheep | 1.58e-03 |
| 16 | 73 | 86.9 | 103 | 2 | alveolar macrophage c | 1.58e-03 |
| 17 | 73 | 86.9 | 103 | 2 | interleukin-8 precursor | 1.58e-03 |
| 18 | 73 | 86.9 | 103 | 2 | interleukin-8 precursor | 1.58e-03 |
| 19 | 71 | 84.5 | 99 | 2 | Neutrophil attractant | 6.47e-03 |
| 20 | 70 | 83.3 | 101 | 2 | PDGF-inducible JE gly | 1.05e-02 |
| 21 | 69 | 82.1 | 148 | 2 | Interleukin-8 homolog | 2.58e-02 |
| 22 | 67 | 79.8 | 89 | 2 | pre-B-cell growth-sti | 2.58e-02 |
| 23 | 67 | 79.8 | 89 | 2 | pre-B-cell growth-sti | 2.58e-02 |

| | | | | | | | |
|----|----|------|------|---|--------|--------------------------|----------|
| 24 | 67 | 79.8 | 93 | 2 | G01540 | cytokine SDF-1-beta - | 2.58e-02 |
| 25 | 67 | 79.8 | 93 | 2 | I81182 | interleukin-8 precursor | 2.58e-02 |
| 26 | 67 | 79.8 | 99 | 2 | A37034 | monocyte chemoattractant | 4.06e-02 |
| 27 | 66 | 78.6 | 91 | 1 | A46539 | macrophage inflammatory | 4.06e-02 |
| 28 | 66 | 78.6 | 92 | 2 | A32393 | monocyte adherence-in | 9.97e-02 |
| 29 | 64 | 76.2 | 50 | 2 | C60407 | macrophage inflammatory | 9.97e-02 |
| 30 | 64 | 76.2 | 92 | 1 | A31767 | macrophage inflammatory | 9.97e-02 |
| 31 | 64 | 76.2 | 92 | 2 | A30574 | LD78-beta protein pre | 9.97e-02 |
| 32 | 64 | 76.2 | 93 | 2 | B35673 | immediate-early serum | 1.55e-01 |
| 33 | 63 | 75.0 | 148 | 2 | S07723 | immune activation gen | 3.74e-01 |
| 34 | 61 | 72.6 | 92 | 2 | I46730 | lymphotactin precursor | 5.77e-01 |
| 35 | 61 | 72.6 | 114 | 1 | ETMSL | monocyte chemoattractant | 5.77e-01 |
| 36 | 60 | 71.4 | 91 | 1 | A28815 | hypothetical protein | 8.86e-01 |
| 37 | 60 | 71.4 | 117 | 2 | S57175 | lymphocyte and monocy | 8.86e-01 |
| 38 | 59 | 70.2 | 120 | 2 | JE0177 | hypothetical protein | 1.36e+00 |
| 39 | 59 | 70.2 | 187 | 2 | C71317 | probable ribonucleosi | 1.36e+00 |
| 40 | 58 | 69.0 | 1053 | 2 | D71466 | monocytic cytokine FI | 2.07e+00 |
| 41 | 57 | 67.9 | 97 | 2 | A48093 | probable resistance g | 2.07e+00 |
| 42 | 57 | 67.9 | 192 | 2 | E71437 | lymphotactin precursor | 3.14e+00 |
| 43 | 56 | 66.7 | 114 | 1 | ETHUL | hypothetical protein | 4.74e+00 |
| 44 | 55 | 65.5 | 145 | 2 | S76877 | hypothetical protein | 7.13e+00 |
| 45 | 54 | 64.3 | 2276 | 2 | T00076 | hypothetical protein | 7.13e+00 |

ALIGNMENTS

| | | | |
|-------------------|---|---|----------------|
| RESULT | 1 | A60299 | #type complete |
| ENTRY | | monocyte chemoattractant protein 1 precursor - human | |
| TITLE | | GDCF-1; glioma-derived monocyte chemotactic factor 1; MCAF; | |
| ALTERNATE_NAMES | | MCP-1; monocyte chemotactic factor 1; monocyte secretory | |
| CONTAINS | | protein; tumor-derived chemotactic factor 2 (GDCF-2) | |
| ORGANISM | | glioma-derived Homo sapiens | |
| DATE | | #formal_name Homo sapiens #common_name man | |
| | | 20-Feb-1993 #sequence-revision 20-Feb-1993 #text_change | |
| | | 20-Mar-1998 | |
| ACCESSIONS | | A35474; A33476; S03339; I51841; A60299; A32300; A32396; | |
| | | A34561; I57488; JC1096 | |
| REFERENCE | | A35474 | |
| #authors | | Shyy, Y.J.; Li, Y.S.; Kolattukudy, P.E. | |
| #journal | | Biochem. Biophys. Res. Commun. (1990) 169:346-351 | |
| #title | | Structure of human monocyte chemotactic protein gene and its | |
| | | regulation by TPA. | |
| #cross-references | | MUID:90290466 | |
| #accession | | A35474 | |
| #molecule_type | | DNA | |
| #residues | | 1-99 | |
| #cross-references | | GB:M37719; NID:g187447; PID:g487124 | |
| REFERENCE | | A33476 | |
| #authors | | Rollins, B.J.; Stier, P.; Ernst, T.; Wong, G.G. | |
| #journal | | Mol. Cell. Biol. (1989) 9:4687-4695 | |
| #title | | The human homolog of the JE gene encodes a monocyte secretory | |
| | | protein. | |
| #cross-references | | MUID:90097880 | |
| #accession | | A33476 | |
| #molecule_type | | mRNA | |
| #residues | | 1-99 | |
| #cross-references | | GB:M31625; GB:M31626; NID:g188701; | |
| | | PID:g386961 | |
| REFERENCE | | S03339 | |
| #authors | | Yoshimura, T.; Yuhki, N.; Moore, S.K.; Appella, E.; Lerman, | |
| | | M.I.; Leonard, E.J. | |
| #journal | | FEBS Lett. (1989) 244:487-493 | |
| #title | | Human monocyte chemoattractant protein-1 (MCP-1). Full-length | |
| | | cDNA cloning, expression in mitogen-stimulated blood | |
| | | mononuclear leukocytes, and sequence similarity to mouse | |
| | | competence gene JE. | |
| #cross-references | | MUID:89153605 | |
| #accession | | S03339 | |
| #status | | not compared with conceptual translation | |
| #molecule_type | | mRNA | |
| #residues | | 1-99 | |
| #cross-references | | GB:X14768; NID:g34513; PID:g34514 | |

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##experimental_source glioma cell line U-105MG
REFERENCE
151841
#authors Yoshimura, T.; Leonard, E.J.
#journal Adv. Exp. Med. Biol. (1991) 305:47-56
#title Human monocyte chemoattractant protein-1 (MCP-1).
#cross-references MUID:92095166
#accession I51841
##status Preliminary; translated from GB/EMBL/DBJ
##molecule_type mRNA
##residues 1-99 ##label Y02
##cross-references GB:S71513; NID:9240867; PID:9240868
REFERENCE
A60299
#authors Bottazzi, B.; Colotta, F.; Sica, A.; Nobili, N.; Mantovani, A.
#journal Int. J. Cancer (1990) 45:795-797
#title A chemoattractant expressed in human sarcoma cells (tumor-derived chemotactic factor, TDCF) is identical to monocyte chemoattractant protein-1/monocyte chemotactic and activating factor (MCP-1/MCAF).
#accession A60299
##status not compared with conceptual translation
##molecule_type mRNA
##residues 1-99 ##label BOT
REFERENCE
A32300
#authors Furutani, Y.; Nomura, H.; Notake, M.; Oyanada, Y.; Fukui, T.; Yamada, M.; Larsen, C.G.; Oppenheim, J.J.; Matsushima, K.
#journal Biochem. Biophys. Res. Commun. (1989) 159:249-255
#title Cloning and sequencing of the cDNA for human monocyte chemotactic and activating factor (MCAF).
#cross-references MUID:89165862
#accession A32300
##status not compared with conceptual translation
##molecule_type mRNA
##residues 1-99 ##label FUR
##cross-references GB:M24545; NID:g187434; PID:g307163
REFERENCE
A32396
#authors Robinson, E.A.; Yoshimura, T.; Leonard, E.J.; Tanaka, S.; Griffin, P.R.; Shabanowitz, J.; Hunt, D.F.; Appella, E.
#journal Proc. Natl. Acad. Sci. U.S.A. (1989) 86:1850-1854
#title Complete amino acid sequence of a human monocyte chemoattractant, a putative mediator of cellular immune reactions.
#cross-references MUID:89184525
#accession A32396
##molecule_type protein
##residues X, 25-99 ##label ROB
REFERENCE
A34561
#authors Decock, B.; Conings, R.; Lenaerts, J.P.; Billiau, A.; Van Damme, J.
#journal Biochem. Biophys. Res. Commun. (1990) 167:904-909
#title Identification of the monocyte chemotactic protein from human osteosarcoma cells and monocytes: detection of a novel N-terminally processed form.
#cross-references MUID:90211336
#accession A34561
##molecule_type protein
##residues 29-33, 'XX', 36-52:82-92 ##label DEC
REFERENCE
I57488
#authors Li, Y.S.; Shyy, Y.J.; Wright, J.G.; Valente, A.J.; Cornhill, J.F.; Kolattukudy, P.E.
#journal Mol. Cell. Biochem. (1993) 126:61-68
#title The expression of monocyte chemotactic protein (MCP-1) in human vascular endothelium in vitro and in vivo.
#cross-references MUID:94150478
#accession I57488
##status translated from GB/EMBL/DBJ
##molecule_type mRNA
##residues 1-99 ##label LIY
##cross-references GB:S69738; NID:g545464; PID:g545465
REFERENCE
JCL096
#authors Ye, Q.N.; Su, G.F.; Yuan, Y.; Huang, C.F.
#journal Chinese J. Microbiol. Immunol. (1994) 14:29-32
#title The PCR, cloning and sequencing of human monocyte

```

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#accession JCL096
#molecule_type mRNA
##residues 24-28, 'Q', 30-99 ##label YEQ

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GENETICS
#gene GDB:SCYA2
#map_position 17q11.2-17q12
#cross-references GDB:125279; OMIM:158105

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CLASSIFICATION
#superfamily macrophage inflammatory protein
KEYWORDS
cytokine; glycoprotein; inflammation; pyroglutamic acid
FEATURE
1-23
24-99
29-99
24
37

```

```

#domain signal sequence #status predicted #label SIG\
#product monocyte chemoattractant protein 1 #status
experimental #label MAP\
#product monocyte chemoattractant protein 1, short form
#status experimental #label MAT2\
#modified_site pyrrolidone carboxylic acid (Gln) (in
mature form) #status experimental\
#binding_site carboxylate (Asn) (covalent) #status
predicted
SUMMARY
#length 99 #molecular-weight 11025 #checksum 7984

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```

Query Match 100.0%; Score 84; DB 2; Length 99;
Best Local Similarity 100.0%; Pred. No. 7.50e-06;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db 75 CADPKQKWQ 84

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QY 1 CADPKQKWQ 10

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RESULT 2

```

```

ENTRY

```

```

TITLE

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```

ORGANISM

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DATE

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```

ACCESSIONS

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REFERENCE

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#authors

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#journal

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#title

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#accession JCL096

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#molecule_type protein

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#residues 1-99 ##label WEM

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GENETICS

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#gene MCP-1

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#introns 26/1; 65/2

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CLASSIFICATION

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#superfamily macrophage inflammatory protein

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```

SUMMARY
#length 99 #molecular-weight 11114 #checksum 9401

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Query Match 100.0%; Score 84; DB 2; Length 99;
Best Local Similarity 100.0%; Pred. No. 7.50e-06;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db 75 CADPKQKWQ 84

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QY 1 CADPKQKWQ 10

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RESULT 3

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ENTRY

```

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TITLE

```

```

ALTERNATE_NAMES

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```

ORGANISM

```

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DATE

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ACCESSIONS

```

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REFERENCE

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#authors

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#journal

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US-09-150-813-7.rpr

Sat Feb 5 12:04:56 2000

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#journal Biochem. Biophys. Res. Commun. (1994) 199:962-968
#title Porcine luteal cells express monocyte chemoattractant protein-1 (MCP-1): Analysis by polymerase chain reaction and cDNA cloning.
#cross-references MUID:94183284
#accession JC2136
#molecule_type mRNA
#residues 1-99 ##label HOS
REFERENCE
#authors Zach, O.
#submitted to the EMBL Data Library, July 1994
#accession S57498
#status preliminary
#molecule_type mRNA
#residues 1-99 ##label ZAC
#cross-references EMBL:X79416; NID:g872312; PID:g872313
CLASSIFICATION #superfamily macrophage inflammatory protein
KEYWORDS glycoprotein
FEATURE
1-23 #domain signal sequence #status predicted #label SIG\
24-99 #product monocyte chemoattractant protein-1 #status
94 #binding_site carbohydrate (Asn) (covalent) #status
SUMMARY
#length 99 #molecular-weight 10976 #checksum 9768
Query Match 98.8%; Score 83; DB 2; Length 99;
Best Local Similarity 90.0%; Pred. No. 1.23e-05;
Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
Db 75 CADPKQKWQ 84
QY 1 CADPKQKWQ 10
RESULT 4
ENTRY #type complete
TITLE monocyte chemoattractant protein-1 - rabbit
ORGANISM #formal_name Oryctolagus cuniculus #common_name domestic rabbit
DATE 14-Feb-1997 #sequence_revision 14-Feb-1997 #text_change 09-May-1997
ACCESSION I46857
REFERENCE Yoshimura, T.; Yuhki, N.
#authors J. Immunol. (1991) 146:3483-3488
#journal Neutrophil attractant/activation protein-1 and monocyte chemoattractant protein-1 in rabbit: cDNA cloning and their expression in spleen cells.
#cross-references MUID:91225489
#accession I46857
#status preliminary; translated from GB/EMBL/DBJ
#molecule_type mRNA
#residues 1-125 ##label YOS
#cross-references GB:M57440; NID:g165469; PID:g165470
CLASSIFICATION #superfamily macrophage inflammatory protein
SUMMARY #length 125 #molecular-weight 13776 #checksum 4498
Query Match 100.0%; Score 84; DB 2; Length 125;
Best Local Similarity 100.0%; Pred. No. 7.50e-06;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Db 75 CADPKQKWQ 84
QY 1 CADPKQKWQ 10
RESULT 5
ENTRY #type complete
TITLE monocyte chemoattractant protein-1 precursor - pig
ORGANISM #formal_name Sus scrofa domestica #common_name domestic pig
DATE 30-Sep-1993 #sequence_revision 20-Aug-1994 #text_change 17-Mar-1999
ACCESSION JC2136; S57498
REFERENCE Hosang, K.; Knoke, I.; Klaudiny, J.; Wempe, F.; Wuttke, W.; Scheit, K.H.

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#journal Biochem. Biophys. Res. Commun. (1994) 199:962-968
#title Porcine luteal cells express monocyte chemoattractant protein-1 (MCP-1): Analysis by polymerase chain reaction and cDNA cloning.
#cross-references MUID:94183284
#accession JC2136
#molecule_type mRNA
#residues 1-99 ##label HOS
REFERENCE
#authors Zach, O.
#submitted to the EMBL Data Library, July 1994
#accession S57498
#status preliminary
#molecule_type mRNA
#residues 1-99 ##label ZAC
#cross-references EMBL:X79416; NID:g872312; PID:g872313
CLASSIFICATION #superfamily macrophage inflammatory protein
KEYWORDS glycoprotein
FEATURE
1-23 #domain signal sequence #status predicted #label SIG\
24-99 #product monocyte chemoattractant protein-1 #status
94 #binding_site carbohydrate (Asn) (covalent) #status
SUMMARY
#length 99 #molecular-weight 10976 #checksum 9768
Query Match 98.8%; Score 83; DB 2; Length 99;
Best Local Similarity 90.0%; Pred. No. 1.23e-05;
Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
Db 75 CADPKQKWQ 84
QY 1 CADPKQKWQ 10
RESULT 6
ENTRY #type complete
TITLE eotaxin precursor - guinea pig
ORGANISM #formal_name Cavia porcellus #common_name guinea pig
DATE 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 09-May-1997
ACCESSION I48099
REFERENCE Rothenberg, M.E.; Luster, A.D.; Lilly, C.M.; Drazen, J.M.; Leder, P.
#authors J. Exp. Med. (1995) 181:1211-1216
#journal Constitutive and allergen-induced expression of eotaxin mRNA in the guinea pig lung.
#cross-references MUID:95173589
#accession I48099
#status preliminary; translated from GB/EMBL/DBJ
#molecule_type mRNA
#residues 1-96 ##label RES
#cross-references EMBL:U18941; NID:g687655; PID:g687656
CLASSIFICATION #superfamily macrophage inflammatory protein
SUMMARY #length 96 #molecular-weight 10753 #checksum 7236
Query Match 91.7%; Score 77; DB 2; Length 96;
Best Local Similarity 90.0%; Pred. No. 2.34e-04;
Matches 9; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
Db 72 CADPKQKWQ 81
QY 1 CADPKQKWQ 10
RESULT 7
ENTRY #type complete
TITLE eotaxin precursor - rat
ORGANISM #formal_name Rattus norvegicus #common_name Norway rat
DATE 21-Feb-1995 #sequence_revision 05-Apr-1995 #text_change 17-Mar-1999
ACCESSION JC2478

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#accession I48147 preliminary; translated from GB/EMBL/DDBJ
#status
#molecule_type mRNA
#residues 1-120 ##label RES
#cross-references GB:L04985; NID:g349820; PID:g349821
GENETICS MCP-1
#gene
#superfamily macrophage inflammatory protein
CLASSIFICATION #length 120 #molecular-weight 13741 #checksum 9252
SUMMARY
Query Match 91.7%; Score 77; DB 2; Length 120;
Best Local Similarity 90.0%; Pred. No. 2.34e-04;
Matches 9; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Db 73 CADPQKQWQ 82
|||||
Qy 1 CADPQKQWQ 10

RESULT 11
ENTRY JN0841 #type complete
TITLE Interleukin-8 - human
ORGANISM #formal_name Homo sapiens #common_name man
DATE 01-Nov-1996 #sequence_revision 01-Nov-1996 #text_change
13-Nov-1998
ACCESSIONS JN0841
REFERENCE Bartels, J.; Schlueter, C.; Richter, E.; Noso, N.; Kulke, R.;
Christophers, E.; Schroeder, J.M.
#journal Biochem. Biophys. Res. Commun. (1996) 225:1045-1051
#title Human dermal fibroblasts express eotaxin: Molecular cloning,
mRNA expression, and identification of eotaxin sequence
variants.
#accession JN0841
#status preliminary
#molecule_type mRNA
#residues 1-97 ##label BAR
#cross-references EMBL:275668; NID:g1531982; PID:e251275; PID:g1531983
#experimental_source dermal fibroblast
#comment This protein has eosinophil specific chemotactic activity.
CLASSIFICATION #superfamily macrophage inflammatory protein
KEYWORDS fibroblast
FEATURE 1-18 #domain signal sequence #status predicted #label SIG\
19-97 #product eotaxin #status predicted #label MAT
#length 97 #molecular-weight 10790 #checksum 448
SUMMARY
Query Match 88.1%; Score 74; DB 2; Length 97;
Best Local Similarity 80.0%; Pred. No. 9.86e-04;
Matches 8; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 73 CADPQKQWQ 82
|||||
Qy 1 CADPQKQWQ 10

RESULT 12
ENTRY I52322 #type complete
TITLE macrophage inflammatory protein-lalpa - rat
ORGANISM #formal_name Rattus norvegicus #common_name Norway rat
DATE 29-May-1998 #sequence_revision 29-May-1998 #text_change
02-Jul-1998
ACCESSIONS I52322
REFERENCE Shi, M.M.; Godleski, J.J.; Paulauskis, J.D.
#authors Biochem. Biophys. Res. Commun. (1995) 211:289-295
#journal Molecular cloning and posttranscriptional regulation of
#title macrophage inflammatory protein-1 alpha in alveolar
macrophages.
#cross-references MUID:95298037
#accession I52322 preliminary; translated from GB/EMBL/DDBJ
#status
#molecule_type mRNA

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#residues 1-92 ##label RES
#cross-references EMBL:U22414; NID:g790632; PID:g790633
CLASSIFICATION #superfamily macrophage inflammatory protein
SUMMARY #length 92 #molecular-weight 10335 #checksum 3184
Query Match 86.9%; Score 73; DB 2; Length 92;
Best Local Similarity 80.0%; Pred. No. 1.58e-03;
Matches 8; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 73 CADPQKQWQ 82
|||||
Qy 1 CADPQKQWQ 10

RESULT 13
ENTRY JN0841 #type complete
TITLE Interleukin-8 - dog
ORGANISM #formal_name Canis lupus familiaris #common_name dog
DATE 19-May-1994 #sequence_revision 19-May-1994 #text_change
12-Apr-1995
ACCESSIONS JN0841
REFERENCE Ishikawa, J.; Suzuki, S.; Hotta, K.; Hirota, Y.; Mizuno, S.;
Suzuki, K.
#journal Gene (1993) 131:305-306
#title Cloning of a canine gene homologous to the human
interleukin-8-encoding gene.
#cross-references MUID:94010328
#accession JN0841
#molecule_type DNA
#residues 1-95 ##label ISH
#comment This protein is a polymorphonuclear leukocytes chemotactic factor
and is involved in the host defense function.
GENETICS
#introns 22/1; 67/2
CLASSIFICATION #superfamily beta-thromboglobulin
SUMMARY #length 95 #molecular-weight 10611 #checksum 3157
Query Match 86.9%; Score 73; DB 2; Length 95;
Best Local Similarity 80.0%; Pred. No. 1.58e-03;
Matches 8; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 77 CLDPKQKQWQ 86
|||||
Qy 1 CADPQKQWQ 10

RESULT 14
ENTRY I46871 #type complete
TITLE Interleukin-8 - rabbit
ALTERNATE_NAMES neutrophil attractant/activation protein-1
ORGANISM #formal_name Oryctolagus cuniculus #common_name domestic
rabbit
DATE 14-Feb-1997 #sequence_revision 14-Feb-1997 #text_change
09-Aug-1997
ACCESSIONS I46871; S13052
REFERENCE Yoshimura, T.; Yuhki, N.
#authors J. Immunol. (1991) 146:3483-3488
#journal Neutrophil attractant/activation protein-1 and monocyte
#title chemoattractant protein-1 in rabbit: cDNA cloning and their
expression in spleen cells.
#cross-references MUID:91225489
#accession I46871 preliminary; translated from GB/EMBL/DDBJ
#status
#molecule_type mRNA
#residues 1-101 ##label YOS
#cross-references GB:M57439; NID:g165552; PID:g165553
REFERENCE S13052
#authors Beaubien, B.C.; Collins, P.D.; Jose, P.J.; Totty, N.F.;
Hsuan, J.; Waterfield, M.D.; Williams, T.J.
#journal Biochem. J. (1990) 271:797-801
#title A novel neutrophil chemoattractant generated during an

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inflammatory reaction in the rabbit peritoneal cavity in vivo. Purification, partial amino acid sequence and structural relationship to interleukin 8.

#cross-references MUID:91058518
#accession S13052

##molecule_type protein

CLASSIFICATION #residues 23-33,'X',35,'X',37-46,'X',48-49,'I',51-53 #label BEA
KEYWORDS #superfamily beta-thromboglobulin
cytokine

SUMMARY #length 101 #molecular-weight 11402 #checksum 1085

Query Match

Best Local Similarity 86.9%; Score 73; DB 2; Length 101;
Matches 8; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 77 CLDPKRWQ 86

QY 1 CDPKRWQ 10

RESULT 15

ENTRY

TITLE I46997 #type complete

ORGANISM interleukin-8 - sheep

DATE #formal_name Ovis sp. #common_name sheep

21-Feb-1997 #sequence_revision 21-Feb-1997 #text_change

09-May-1997

ACCESSIONS

REFERENCE I46997

#authors

#journal Seow, H.F.; Yoshimura, T.; Wood, P.R.; Colditz, I.G.

#title Immunol. Cell Biol. (1994) 72:398-405

#cross-references MUID:95137691
skin of ovine interleukin-8.

#accession I46997

##status preliminary; translated from GB/EMBL/DBJ

##molecule_type mRNA

##residues 1-101 #label SEO

##cross-references GB:S74436; NID:g786590; PID:g786591

GENETICS

#gene oIL-8

CLASSIFICATION #superfamily beta-thromboglobulin

SUMMARY #length 101 #molecular-weight 11292 #checksum 294

Query Match

Best Local Similarity 86.9%; Score 73; DB 2; Length 101;
Matches 8; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 77 CLDPKRWQ 86

QY 1 CDPKRWQ 10

Search completed: Fri Feb 4 16:59:05 2000

Job time : 16 secs.

Sat Feb 5 15:13:43 2000

 M P S R C H (TM)

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MPSrch_pp protein - protein database search, using Smith-Waterman algorithm
 Run on: Fri Feb 4 16:53:42 2000; Maspar time 3.53 Seconds
 72.208 Million cell updates/sec
 Tabular output not generated.

Title: >US-09-150-813-1
 Description: (1-12) from US09150813.pep
 Perfect Score: 97
 Sequence: 1 ETCADPKQKVVQ 12

Scoring table: PAM 150
 Gap 15

Searched: 170751 seqs, 21266608 residues

Post-processing: Minimum Match 0%
 Listing first 45 summaries

Database: a-geneseq35
 1:part8 9:part9 10:part10 11:part11 12:part12 13:part13
 14:part15 15:part16 16:part17 17:part18 18:part19
 19:part20 20:part21 21:part22 22:part23 23:part24
 24:part25 25:part26 26:part27 27:part28 28:part29
 29:part30 30:part31 31:part32 32:part33 33:part34
 34:part35 35:part36 36:part37 37:part38 38:part39
 39:part40

Statistics: Mean 18.469; Variance 64.805; scale 0.285

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match | Length | ID | Description | Pred. No. |
|------------|-------|-------------|--------|----|----------------------------|-----------|
| 1 | 97 | 100.0 | 66 | 24 | Monocyte chemoattractant | 7.70e-03 |
| 2 | 97 | 100.0 | 67 | 24 | Monocyte chemoattractant | 7.70e-03 |
| 3 | 97 | 100.0 | 68 | 24 | Monocyte chemoattractant | 7.70e-03 |
| 4 | 97 | 100.0 | 69 | 24 | Monocyte chemoattractant | 7.70e-03 |
| 5 | 97 | 100.0 | 70 | 24 | des(2-8) MCP-1. | 7.70e-03 |
| 6 | 97 | 100.0 | 71 | 24 | Monocyte chemoattractant | 7.70e-03 |
| 7 | 97 | 100.0 | 72 | 24 | Peptide from human gl | 7.70e-03 |
| 8 | 97 | 100.0 | 73 | 24 | (28-Asp) MCP-1. | 7.70e-03 |
| 9 | 97 | 100.0 | 74 | 24 | Mature human monocyte | 7.70e-03 |
| 10 | 97 | 100.0 | 75 | 24 | MCP-1. | 7.70e-03 |
| 11 | 97 | 100.0 | 76 | 24 | (3-Ala) MCP-1. | 7.70e-03 |
| 12 | 97 | 100.0 | 77 | 24 | Macrophage chemoattractant | 7.70e-03 |
| 13 | 97 | 100.0 | 78 | 24 | Sense MCP-1. | 7.70e-03 |
| 14 | 97 | 100.0 | 79 | 24 | Monocyte chemoattractant | 7.70e-03 |
| 15 | 97 | 100.0 | 80 | 24 | (24-Arg) MCP-1. | 7.70e-03 |
| 16 | 97 | 100.0 | 81 | 24 | Mature MCP-1. | 7.70e-03 |

| | | | | | | | |
|----|----|-------|-----|----|--------|-----------------------|----------|
| 17 | 97 | 100.0 | 99 | 2 | P95387 | Human monocyte chemo- | 7.70e-03 |
| 18 | 97 | 100.0 | 99 | 14 | R73914 | Human monocyte chemo | 7.70e-03 |
| 19 | 97 | 100.0 | 99 | 13 | R70800 | Chemoattractant prote | 7.70e-03 |
| 20 | 97 | 100.0 | 99 | 30 | W40174 | Macrophage chemoattra | 7.70e-03 |
| 21 | 97 | 100.0 | 99 | 5 | R28663 | MCF. | 2.03e-02 |
| 22 | 93 | 95.9 | 71 | 26 | W22675 | Droi3+ chemokine beta | 2.03e-02 |
| 23 | 93 | 95.9 | 75 | 31 | W56690 | Chemokine MCP-4 prote | 2.03e-02 |
| 24 | 93 | 95.9 | 75 | 26 | W22673 | Bac 3 chemokine beta1 | 2.03e-02 |
| 25 | 93 | 95.9 | 77 | 26 | W22672 | Bac 2 chemokine beta1 | 2.03e-02 |
| 26 | 93 | 95.9 | 79 | 26 | W22674 | Droi1/2 chemokine bet | 2.03e-02 |
| 27 | 93 | 95.9 | 82 | 26 | W22671 | Bac 1 chemokine beta1 | 2.03e-02 |
| 28 | 93 | 95.9 | 82 | 24 | W17665 | Stem cell mobilising | 2.03e-02 |
| 29 | 93 | 95.9 | 98 | 17 | R33087 | Human monocyte chemo | 2.03e-02 |
| 30 | 93 | 95.9 | 98 | 17 | R33087 | Human chemokine beta | 2.03e-02 |
| 31 | 93 | 95.9 | 98 | 28 | W30191 | Monocyte chemoattract | 2.03e-02 |
| 32 | 93 | 95.9 | 98 | 26 | W22670 | Human chemokine beta1 | 2.03e-02 |
| 33 | 93 | 95.9 | 99 | 2 | R06398 | Human MCF precursor. | 2.03e-02 |
| 34 | 92 | 94.8 | 76 | 5 | R26580 | Sequence of bovine P6 | 2.58e-02 |
| 35 | 92 | 94.8 | 99 | 5 | R26581 | Sequence of P6 precu | 2.58e-02 |
| 36 | 90 | 92.8 | 67 | 14 | R73915 | Human monocyte chemo | 4.17e-02 |
| 37 | 90 | 92.8 | 99 | 13 | R70801 | Chemoattractant prote | 4.17e-02 |
| 38 | 90 | 92.8 | 109 | 2 | R24353 | Cytokine encoded by c | 4.17e-02 |
| 39 | 89 | 91.8 | 82 | 29 | W44721 | Amino acid sequence o | 5.29e-02 |
| 40 | 89 | 91.8 | 97 | 23 | W10099 | Human eotaxin. | 5.29e-02 |
| 41 | 89 | 91.8 | 97 | 24 | W14990 | Human eosinocyte CC t | 5.29e-02 |
| 42 | 89 | 91.8 | 97 | 21 | W00667 | Pancreas expressed ch | 5.29e-02 |
| 43 | 86 | 88.7 | 104 | 31 | W56088 | Murine monocyte chemo | 1.08e-01 |
| 44 | 86 | 88.7 | 104 | 31 | W57322 | Mouse monocyte chemot | 1.08e-01 |
| 45 | 84 | 86.6 | 96 | 24 | W14991 | Guinea pig eosinocyte | 1.74e-01 |

ALIGNMENTS

RESULT 1
 ID W13598 standard; peptide; 66 AA.
 AC W13598;
 DT 07-NOV-1997 (first entry)
 DE Monocyte chemoattractant protein analogue MCP-1 (10-76).
 KW Truncated monocyte chemoattractant protein-1; inhibitor;
 KW receptor binding; anti-inflammatory; basophil; lymphocyte; allergy;
 KW chronic inflammatory disease; arthritis; arteriosclerosis;
 KW lung disease.
 OS Homo sapiens.
 PN CA2152141-A.
 PD 20-DEC-1996.
 PF 19-JUN-1995; 152141.
 PR 19-JUN-1995; CA-152141.
 PA (LEWIS) LEWIS I.
 PI Gong J, Lewis I;
 DR WPI; 97-165844/16.
 PT N-terminally truncated monocyte chemoattractant protein-1 (MCP-1) -
 PT lacks MCP-1 activity and inhibits receptor binding, useful as
 PT anti-inflammatory agent
 PS Disclosure: Page 5; 27pp: English.
 CC The present sequence represents an analogue, MCP-1 (10-76), of monocyte
 CC chemoattractant protein-1 (MCP-1). The analogue, which lacks the
 CC N-terminal amino acids 1-9 of MCP-1, acts as an antagonist of MCP-1
 CC as it lacks MCP-1 biological activity and inhibits binding to a MCP-1
 CC receptor. The analogue is useful as an anti-inflammatory agent to block
 CC the effects of MCP-1 which is an inflammatory mediator causing migration
 CC of monocytes and other cells e.g. basophils and lymphocytes into
 CC inflammatory sites. MCP-1 has been implicated in allergic and chronic
 CC inflammatory diseases e.g. arthritis, arteriosclerosis and several lung
 CC diseases. The analogue competes more effectively with MCP-1 for binding
 CC MCP-1 receptors than prior art mutant versions of MCP-1 e.g. preferably
 CC providing 50% inhibition of binding at a 25:1 ratio or less, compared
 CC with 75:1 for prior art mutant 7ND.
 CC Sequence 66 AA;
 SQ

Query Match 100.0%; Score 97; DB 24; Length 66;
 Best Local Similarity 100.0%; Pred. No. 7.70e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 40 eicadpkqkwwq 51
 |||||
 QY 1 EICADPKQKWWQ 12

RESULT

ID W13599 standard; peptide; 67 AA.
 AC W13599;
 DT 07-NOV-1997 (first entry)
 DE Monocyte chemoattractant protein analogue MCP-1 (11-76).
 KW Truncated monocyte chemoattractant protein-1; inhibitor;
 KW receptor binding; anti-inflammatory; basophil; lymphocyte; allergy;
 KW chronic inflammatory disease; arthritis; arteriosclerosis;
 KW lung disease.
 OS Homo sapiens.
 PN CA2152141-A.
 PD 20-DEC-1996.
 PF 19-JUN-1995; 152141.
 PR 19-JUN-1995; CA-152141.
 PA (LEWIS/) LEWIS I.
 PI Gong J, Lewis I;
 DR WPI; 97-165844/16.
 PT N-terminally truncated monocyte chemoattractant protein-1 (MCP-1) -
 PT lacks MCP-1 activity and inhibits receptor binding, useful as
 PT anti-inflammatory agent
 PS Disclosure; Page 5; 27pp; English.
 CC The present sequence represents an analogue, MCP-1 (11-76), of monocyte
 CC chemoattractant protein-1 (MCP-1). The analogue, which lacks the
 CC N-terminal amino acids 1-10 of MCP-1, acts as an antagonist of MCP-1
 CC as it lacks MCP-1 biological activity and inhibits binding to a MCP-1
 CC receptor. The analogue is useful as an anti-inflammatory agent to block
 CC the effects of MCP-1 which is an inflammatory mediator causing migration
 CC of monocytes and other cells e.g. basophils and lymphocytes into
 CC inflammation sites. MCP-1 has been implicated in allergic and chronic
 CC inflammatory diseases e.g. arthritis, arteriosclerosis and several lung
 CC diseases. The analogue competes more effectively with MCP-1 for binding
 CC MCP-1 receptors than prior art mutant versions of MCP-1 e.g. preferably
 CC providing 50% inhibition of binding at a 25:1 ratio or less, compared
 CC with 75:1 for prior art mutant 7ND.
 SQ Sequence 67 AA;

Query Match 100.0%; Score 97; DB 24; Length 67;
 Best Local Similarity 100.0%; Pred. No. 7.70e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 41 eicadpkqkwwq 52
 |||||
 QY 1 EICADPKQKWWQ 12

RESULT

ID W13597 standard; peptide; 68 AA.
 AC W13597;
 DT 07-NOV-1997 (first entry)
 DE Monocyte chemoattractant protein analogue MCP-1 (9-76).
 KW Truncated monocyte chemoattractant protein-1; inhibitor;
 KW receptor binding; anti-inflammatory; basophil; lymphocyte; allergy;
 KW chronic inflammatory disease; arthritis; arteriosclerosis;
 KW lung disease.
 OS Homo sapiens.
 PN CA2152141-A.
 PD 20-DEC-1996.
 PF 19-JUN-1995; 152141.
 PR 19-JUN-1995; CA-152141.
 PA (LEWIS/) LEWIS I.
 PI Gong J, Lewis I;
 DR WPI; 97-165844/16.
 PT N-terminally truncated monocyte chemoattractant protein-1 (MCP-1) -
 PT lacks MCP-1 activity and inhibits receptor binding, useful as
 PT anti-inflammatory agent
 PS Claim 7; Page 5; 27pp; English.
 CC The present sequence represents an analogue, MCP-1 (9-76), of monocyte
 CC chemoattractant protein-1 (MCP-1). The analogue, which lacks the

CC N-terminal amino acids 1-8 of MCP-1, acts as an antagonist of MCP-1
 CC as it lacks MCP-1 biological activity and inhibits binding to a MCP-1
 CC receptor. The analogue is useful as an anti-inflammatory agent to block
 CC the effects of MCP-1 which is an inflammatory mediator causing migration
 CC of monocytes and other cells e.g. basophils and lymphocytes into
 CC inflammation sites. MCP-1 has been implicated in allergic and chronic
 CC inflammatory diseases e.g. arthritis, arteriosclerosis and several lung
 CC diseases. The analogue competes more effectively with MCP-1 for binding
 CC MCP-1 receptors than prior art mutant versions of MCP-1 e.g. preferably
 CC providing 50% inhibition of binding at a 25:1 ratio or less, compared
 CC with 75:1 for prior art mutant 7ND.
 SQ Sequence 68 AA;

Query Match 100.0%; Score 97; DB 24; Length 68;
 Best Local Similarity 100.0%; Pred. No. 7.70e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 42 eicadpkqkwwq 53
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 QY 1 EICADPKQKWWQ 12

RESULT

ID W13596 standard; peptide; 69 AA.
 AC W13596;
 DT 07-NOV-1997 (first entry)
 DE Monocyte chemoattractant protein analogue MCP-1 (8-76).
 KW Truncated monocyte chemoattractant protein-1; inhibitor;
 KW receptor binding; anti-inflammatory; basophil; lymphocyte; allergy;
 KW chronic inflammatory disease; arthritis; arteriosclerosis;
 KW lung disease.
 OS Homo sapiens.
 PN CA2152141-A.
 PD 20-DEC-1996.
 PF 19-JUN-1995; 152141.
 PR 19-JUN-1995; CA-152141.
 PA (LEWIS/) LEWIS I.
 PI Gong J, Lewis I;
 DR WPI; 97-165844/16.
 PT N-terminally truncated monocyte chemoattractant protein-1 (MCP-1) -
 PT lacks MCP-1 activity and inhibits receptor binding, useful as
 PT anti-inflammatory agent
 PS Claim 5; Page 5; 27pp; English.
 CC The present sequence represents an analogue, MCP-1 (8-76), of monocyte
 CC chemoattractant protein-1 (MCP-1). The analogue, which lacks the
 CC N-terminal amino acids 1-7 of MCP-1, acts as an antagonist of MCP-1
 CC as it lacks MCP-1 biological activity and inhibits binding to a MCP-1
 CC receptor. The analogue is useful as an anti-inflammatory agent to block
 CC the effects of MCP-1 which is an inflammatory mediator causing migration
 CC of monocytes and other cells e.g. basophils and lymphocytes into
 CC inflammation sites. MCP-1 has been implicated in allergic and chronic
 CC inflammatory diseases e.g. arthritis, arteriosclerosis and several lung
 CC diseases. The analogue competes more effectively with MCP-1 for binding
 CC MCP-1 receptors than prior art mutant versions of MCP-1 e.g. preferably
 CC providing 50% inhibition of binding at a 25:1 ratio or less, compared
 CC with 75:1 for prior art mutant 7ND.
 SQ Sequence 69 AA;

Query Match 100.0%; Score 97; DB 24; Length 69;
 Best Local Similarity 100.0%; Pred. No. 7.70e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 43 eicadpkqkwwq 54
 |||||
 QY 1 EICADPKQKWWQ 12

RESULT

ID R87678 standard; protein; 69 AA.
 AC R87678;
 DT 21-FEB-1996 (first entry)
 DE des(2-8) MCP-1.
 KW monocyte chemoattractant protein; MCP-1; mutant; restenosis;

US-09-150-813-1.1.rag

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CC the injured area and release growth factor. This causes proliferation of
 CC the vascular smooth cells resulting in restenosis. The gene sequence can
 CC be used to generate antisense sequences e.g. T48093-7, which can be used
 CC to inhibit in vitro MCP-1 prodn. by mononuclear cells e.g. lymphocytes or
 CC macrophages, or smooth muscle cells, esp. in order to prevent vascular
 CC restenosis. 76 AA;
 SQ Sequence 76 AA;

Query Match 100.0%; Score 97; DB 20; Length 76;
 Best Local Similarity 100.0%; Pred. No. 7.70e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 50 eicadpkqkvwq 61
 QY 1 EICADPKQKWWQ 12
 |||||

RESULT 7
 ID P90292 standard; peptide: 76 AA.
 AC P90292;
 DT 17-JAN-1990 (first entry)
 DE Peptide from human glioma cell line U-105MG.
 KW Glioma; leucocyte; chemotaxis; neoplasms.
 OS Human.
 FH Key Location/Qualifiers
 FT modified_site 1
 FT /label= OTHER
 FT /note= "pyroglutamic acid"
 FT US7304234-A.
 FN 20-JUL-1989.
 PD 31-JAN-1989; 030423.
 PR 31-JAN-1989; US-304234.
 PA (USSH) US Dept. of Health and Human.
 PI Yoshimura T; Robinson E; Appella E.
 DR WPI; 89-263501/36.
 DT New peptide with specific chemotactic activity for monocytes - isolated
 PT from glioma or leucocyte cells, useful for treating infections and
 PT neoplasms.
 PS Disclosure: page 3; 46pp; English.
 CC Peptide is derived from glioma cell line U-105MG (ATCC CRL9932) or from
 CC leukocytes and has mol. wt. 8400. Used to treat infections and neoplasms.
 SQ Sequence 76 AA;

Query Match 100.0%; Score 97; DB 1; Length 76;
 Best Local Similarity 100.0%; Pred. No. 7.70e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 50 eicadpkqkvwq 61
 QY 1 EICADPKQKWWQ 12
 |||||

RESULT 8
 ID R87675 standard; protein: 76 AA.
 AC R87675;
 DT 21-FEB-1996 (first entry)
 DE (28-ASP) MCP-1.
 KW monocyte chemoattractant protein; MCP-1; mutant; restenosis;
 KW angioplasty.
 OS Homo sapiens.
 FH Key Location/Qualifiers
 FT modified_site 28
 FT /note= "Tyr in the native sequence is replaced by Asp"
 FT disulfide_bond 11..36
 FT disulfide_bond 12..52
 FT WO9513295-A1.
 PN WO9513295-A1.
 PD 18-MAY-1995.
 PF 07-NOV-1994; U12874.
 PR 12-NOV-1993; US-152301.
 PA (DAND) DANA FARBER CANCER INST INC.
 PI Rollins B, Zhang YJ;
 DR WPI; 95-215051/28.
 PT Human monocyte chemo-attractant protein-1 (MCP-1) derivs. - are

angioplasty.
 OS Homo sapiens.
 FH Key Location/Qualifiers
 FT modified_site 2..3
 FT /note= "amino acids 2-8 of the native protein have
 been deleted between these residues"
 FT disulfide_bond 4..29
 FT disulfide_bond 5..45
 FT WO9513295-A1.
 PN WO9513295-A1.
 PD 18-MAY-1995.
 PF 07-NOV-1994; U12874.
 PR 12-NOV-1993; US-152301.
 PA (DAND) DANA FARBER CANCER INST INC.
 PI Rollins B, Zhang YJ;
 DR WPI; 95-215051/28.
 PT Human monocyte chemo-attractant protein-1 (MCP-1) derivs. - are
 capable of inhibiting the monocyte chemo-attractant activity of
 endogenous MCP-1 and can be used to treat restenosis
 Claim 4; Page 11; 22pp; English.
 PS Monocyte chemoattractant protein-1 (MCP-1) derivatives are mutated such
 CC that they inhibit the monocyte chemoattractant activity of endogenous
 CC MCP-1, provided that the derivative has not been modified by the
 CC substitution of 28-Tyr by Leu and/or 30-Arg by Val. Preferred mutations
 CC are: (1) substitution of 28 Tyr by aspartate; (2) substitution of 24 Arg
 CC by Phe; (3) substitution of 3-Asp by Ala; and/or (4) deletion of amino
 CC acids 2-8. The present sequence is a specifically claimed human MCP-1
 CC derivative based on the parent protein disclosed in Rollins, Molecular
 CC and Cellular Biology, Vol. 9, No. 11, pp. 4687-4695, Nov. 1989.
 CC The peptides can be used to prevent restenosis, e.g. in patients
 CC undergoing coronary artery angioplasty.
 SQ Sequence 69 AA;

Query Match 100.0%; Score 97; DB 14; Length 69;
 Best Local Similarity 100.0%; Pred. No. 7.70e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 43 eicadpkqkvwq 54
 QY 1 EICADPKQKWWQ 12
 |||||

RESULT 6
 ID W09374 standard; Protein: 76 AA.
 AC W09374;
 DT 21-MAR-1997 (first entry)
 DE Monocyte chemoattractant protein 1.
 KW Human; monocyte chemoattractant protein; antisense; inhibition;
 KW mononuclear cell; lymphocyte; macrophage; smooth muscle cell;
 KW vascular restenosis.
 OS Homo sapiens.
 FH Key Location/Qualifiers
 FT misc_difference 1
 FT /note= "encoded by codon CAG"
 FT misc_difference 51
 FT /note= "encoded by codon AUG"
 FT misc_difference 65
 FT /note= "encoded by codon CAC"
 FT US5571713-A.
 PN 05-NOV-1996.
 PD 22-OCT-1992; 965678.
 PR 22-OCT-1992; US-965678.
 PR 27-MAY-1994; US-250958.
 PA (UNMI) UNIV MICHIGAN.
 PI Kunkel SE, Lytle LR, Strieter RM;
 DR WPI; 96-505405/50.
 DR N-PSDB; T48092.
 DT Anti-sense Monocyte Chemoattractant Protein-1 oligo:nucleotide(s) -
 PT useful for therapy or diagnosis of restenosis, etc.
 PS Disclosure: Column 13-14; 16pp; English.
 CC This is the amino acid sequence of the human monocyte chemoattractant
 CC protein (MCP)-1, a member of the C-C chemokine family. MCP-1 is a potent
 CC stimulator of monocyte chemotaxis and is produced by injured vascular
 CC smooth cells thus attracting monocytes and macrophages which infiltrate

capable of inhibiting the monocyte chemo-attractant activity of endogenous MCP-1 and can be used to treat restenosis

Claim 3: Page 11; 22pp; English.

Monocyte chemoattractant protein-1 (MCP-1) derivatives are mutated such that they inhibit the monocyte chemoattractant activity of endogenous MCP-1, provided that the derivative has not been modified by the substitution of 28-Tyr by Leu and/or 30-Arg by Val. Preferred mutations are: (1) substitution of 28 Tyr by aspartate; (2) substitution of 24 Arg acids 2-8. The present sequence is a specifically claimed human MCP-1 derivative based on the parent protein disclosed in Rollins, Molecular and Cellular Biology, Vol. 9, No. 11, pp. 4687-4695, Nov. 1989. The peptides can be used to prevent restenosis, e.g. in patients undergoing coronary artery angioplasty.

Sequence 76 AA;

Query Match 100.0%; Score 97; DB 14; Length 76;
Best Local Similarity 100.0%; Pred. No. 7.70e-03;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 50 eicadpkqkwvq 61
|||||

QY 1 EICADPKQKWVQ 12

RESULT 9

ID W11131 standard; protein; 76 AA.

AC W11131.

DT 10-JUN-1997 (first entry)

DE Mature human monocyte chemoattractant protein-1 (MCP-1).

KW MCP-1; mature chemoattractant protein-1; cytokine; interleukin-8;
IL-8; neutrophil activating peptide; labelling; imaging; targeting;
radioisotope; infection; inflammation; neoplasm; atheromatous lesion;
restenosis.

OS Homo sapiens.

FH Key

FT misc_difference 1

ET Location/Qualifiers

PN /note= "X= any amino acid"

US5605671-A.
25-FEB-1997.
05-OCT-1992; 956862.
05-OCT-1992; US-956863.
05-OCT-1992; US-956862.
29-APR-1994; US-235659.
(MCLW) MALLINCKRODT MEDICAL INC.
(UNMI) UNIV MICHIGAN.
Kunkel SL, Lyle LR, Strieter RM;
WPI: 97-153541/14.
Radio:labelling neutrophil-activating peptide(s) - for imaging
targeted delivery of radioactive agent
Example 10: Column 19-20; 19pp; English.
W11131 represents mature human monocyte chemoattractant protein-1
(MCP-1). MCP-1 was radioisotope labelled and used in a method for
imaging a target site in vivo in an animal. Labelled MCP-1 was allowed
to accumulate at a target site (having MCP-1 receptors) in the animal
and detected so as to image the target site. Any Cys-Cys or Cys-Xaa-Cys
chemokine carrying either iodine-123 or iodine-131 can be used in the
method. Especially preferred is neutrophil activating peptide-2 (NAP-2)
which recognises interleukin-8 receptors and is labelled with
technetium-99m, indium-111, copper-62, rhenium-186 or rhenium-188.
The method can be used for imaging a site of infection, inflammation,
neoplasm, atheromatous lesion or restenosis.

Sequence 76 AA;

Query Match 100.0%; Score 97; DB 21; Length 76;
Best Local Similarity 100.0%; Pred. No. 7.70e-03;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 50 eicadpkqkwvq 61
|||||

QY 1 EICADPKQKWVQ 12

^

RESULT 10

ID R28660 standard; protein; 76 AA.

AC R28660;

DT 24-MAR-1993 (first entry)

DE MCP-1.

KW Plasmid; monocyte chemotactic factor; MCP; translation;
termination; terminator; initiation; ribosome binding site;
RBS; promoter; tryptophan; repressor.

OS Synthetic.

PN WO9219737-A.

PD 12-NOV-1992.

PF 27-APR-1992; J00550.

PR 09-MAY-1991; JP-135950.

PA (DAIN) DAINIPPON PHARM CO LTD.

PI Fukui T, Matsuo N, Yamada M, Yamagishi J;

DR WPI: 92-398864/48.

DR N-PSDB: 030745-46.

PT Prodn. of polypeptide(s) having monocyte chemotactic activity -
using expression plasmids with E. coli elements and specific
E. coli strains

PS Claim 1; Page 48 + Page 36; 56pp; English.

CC An expression plasmid, pHM483, for producing MCP(76) consisting
of 76 amino acids was constructed. The prod. can be used for e.g.
treating bacterial infectious diseases.

SQ Sequence 76 AA;

Query Match 100.0%; Score 97; DB 5; Length 76;
Best Local Similarity 100.0%; Pred. No. 7.70e-03;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 50 eicadpkqkwvq 61
|||||

QY 1 EICADPKQKWVQ 12

RESULT 11

ID R87677 standard; protein; 76 AA.

AC R87677;

DT 21-FEB-1996 (first entry)

DE (3-Ala) MCP-1.

KW monocyte chemoattractant protein; MCP-1; mutant; restenosis;
angioplasty.

OS Homo sapiens.

FH Key

ET Location/Qualifiers

FT modified_site 3

FT /note= "Asp in the native sequence is replaced by Ala"

FT disulfide bond 11..36

FT disulfide bond 12..52

PN WO9513295-A1.

PD 18-MAY-1995.

PF 07-NOV-1994; U12874.

PR 12-NOV-1993; US-152301.

PA (DAND) DANA FARMER CANCER INST INC.

PI Rollins B, Zhang YJ;

DR WPI: 95-215051/28.

PT Human monocyte chemo-attractant protein-1 (MCP-1) derivs. - are
capable of inhibiting the monocyte chemo-attractant activity of
endogenous MCP-1 and can be used to treat restenosis

PS Claim 6; Page 11; 22pp; English.

CC Monocyte chemoattractant protein-1 (MCP-1) derivatives are mutated such
that they inhibit the monocyte chemoattractant activity of endogenous
MCP-1, provided that the derivative has not been modified by the
substitution of 28-Tyr by Leu and/or 30-Arg by Val. Preferred mutations
are: (1) substitution of 28 Tyr by aspartate; (2) substitution of 24 Arg
acids 2-8. The present sequence is a specifically claimed human MCP-1
derivative based on the parent protein disclosed in Rollins, Molecular
and Cellular Biology, Vol. 9, No. 11, pp. 4687-4695, Nov. 1989.
The peptides can be used to prevent restenosis, e.g. in patients
undergoing coronary artery angioplasty.

SQ Sequence 76 AA;

Query Match 100.0%; Score 97; DB 14; Length 76;

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PS Disclosure; Page 5; 42pp; English.
 CC The sequences given in R53398-99 represent sense and antisense
 CC monocyte chemoattractant protein-1 (MCP-1) respectively. These
 CC oligonucleotides may be labelled with a radionuclide and use
 CC therapeutically for the treatment of vascular restenosis.
 CC Radiolabelled antisense MCP-1 compounds may be constructed using high
 CC energy alpha or beta emitting isotopes rather than the gamma
 CC emitters customarily used for diagnostic purposes. Antisense MCP-1
 CC compounds inactivate MCP-1 or inhibit production of MCP-1 so that
 CC monocytes are not attracted to the area of vascular injury and
 CC proliferation of vascular cells is inhibited.
 SQ Sequence 76 AA;

Query Match 100.0%; Score 97; DB 10; Length 76;
 Best Local Similarity 100.0%; Pred. No. 7.70e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 50 eicadpkqkwvq 61
 |||||
 QY 1 EICADPKQKWVQ 12

RESULT 12
 ID W40175 standard; Protein; 76 AA.
 AC W40175;
 DT 01-JUL-1998 (first entry)
 DE Macrophage chemoattractant peptide designated GDCF-2.
 KW Monocyte chemoattractant peptide; MCP; MCP-1; treatment; neoplasm;
 KW infection; human; monocyte receptor; chemotactic response; inflammation;
 KW monocyte infiltration.
 OS Homo sapiens.
 FH Key Location/Qualifiers
 FT Modified_site 1 /note= "pyroglutamic acid"
 FT US5714578-A.
 PN 03-FEB-1998.
 PD 06-JUN-1995; 466280.
 PR 30-MAR-1989; US-330446.
 PR 31-JAN-1989; US-304234.
 PA (USSH) US DEPT HEALTH & HUMAN SERVICES.
 PI Appella E, Leonard EJ, Robinson EA, Yoshimura T;
 WPI: 98-129909/12.
 DR Peptide with chemotactic activity for monocytes - from human
 PT monocytes or glioma cells, useful for treating infections and
 PT neoplasms
 PS Claim 1; Column 27; 21pp; English.
 CC The present sequence represents a monocyte chemoattractant peptide (MCP)
 CC designated GDCF-2. MCPs can be isolated from human glioma cell line
 CC U-105MG (e.g. present sequence) and peripheral blood mononuclear
 CC leukocytes. MCPs are used for the treatment of neoplasms and infections
 CC in humans. Short peptides derived from MCPs can be screened to identify
 CC those that can bind to the monocyte receptor without stimulating a
 CC chemotactic response. These are potentially useful for treating
 CC inflammation associated with monocyte infiltration.
 CC Sequence 76 AA;

Query Match 100.0%; Score 97; DB 30; Length 76;
 Best Local Similarity 100.0%; Pred. No. 7.70e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 50 eicadpkqkwvq 61
 |||||
 QY 1 EICADPKQKWVQ 12

RESULT 13
 ID R53398 standard; Protein; 76 AA.
 AC R53398;
 DT 15-DEC-1994 (first entry)
 DE Sense MCP-1.
 KW Antisense; RNA; DNA; monocyte chemoattractant protein-1; MCP-1;
 KW radionuclide; vascular restenosis; alpha; beta; emitting isotope;
 KW diagnosis; monocytes; vascular injury.
 OS Mammalian.
 FH Key Location/Qualifiers
 FT misc_difference 1 /note= "Unspecified amino acid"
 FT W09409128-A.
 PN 28-APR-1994.
 PD 20-OCT-1993; U10074.
 PR 22-OCT-1992; US-965678.
 PA (MLCW) MALLINCKRODT MEDICAL INC.
 PI Lyle LR;
 DR WPI: 94-151314/18.
 PT Anti-sense monocyte chemoattractant protein-1 oligo:nucleotide(s) and
 PT peptide(s) - is used for inhibiting, treating or imaging areas of
 PT vascular restenosis or potential restenosis

PS Disclosure; Page 5; 42pp; English.
 CC The sequences given in R53398-99 represent sense and antisense
 CC monocyte chemoattractant protein-1 (MCP-1) respectively. These
 CC oligonucleotides may be labelled with a radionuclide and use
 CC therapeutically for the treatment of vascular restenosis.
 CC Radiolabelled antisense MCP-1 compounds may be constructed using high
 CC energy alpha or beta emitting isotopes rather than the gamma
 CC emitters customarily used for diagnostic purposes. Antisense MCP-1
 CC compounds inactivate MCP-1 or inhibit production of MCP-1 so that
 CC monocytes are not attracted to the area of vascular injury and
 CC proliferation of vascular cells is inhibited.
 SQ Sequence 76 AA;

Query Match 100.0%; Score 97; DB 10; Length 76;
 Best Local Similarity 100.0%; Pred. No. 7.70e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 50 eicadpkqkwvq 61
 |||||
 QY 1 EICADPKQKWVQ 12

RESULT 14
 ID R87680 standard; Protein; 76 AA.
 AC R87680;
 DT 05-MAR-1996 (first entry)
 DE Monocyte chemoattractant activating factor for use as wound remedy.
 KW Monocyte chemoattractant activating factor; MCAF; wound remedy.
 OS Homo sapiens.
 PN W09507710-A1.
 PD 23-MAR-1995.
 PF 13-SEP-1994; J01512.
 PR 13-SEP-1993; JP-227385.
 PA (TORA) TORAY IND INC.
 PI Matsushima K, Naruto M;
 WPI: 95-131181/17.
 DR Wound treatment using monocyte chemoattractant factor - has potent
 PT therapeutic effect on skin wounds and ulcers
 PS Disclosure; Page 12; 22pp; Japanese.
 CC The invention relates to a new remedy for curing wounds which, instead
 CC of comprising a growth factor, comprises a monocyte chemoattractant
 CC activating factor (MCAF) or its variants or derivatives. The factor has
 CC potent effect on skin wounds and ulcers. The present sequence is human
 CC MCAF. The activity of which is exemplified as the new remedy.
 CC Sequence 76 AA;

Query Match 100.0%; Score 97; DB 14; Length 76;
 Best Local Similarity 100.0%; Pred. No. 7.70e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 50 eicadpkqkwvq 61
 |||||
 QY 1 EICADPKQKWVQ 12

RESULT 15
 ID R87676 standard; Protein; 76 AA.
 AC R87676;
 DT 21-FEB-1996 (first entry)
 DE (24-Arg) MCP-1.
 KW monocyte chemoattractant protein; MCP-1; mutant; restenosis;
 KW angioplasty.
 OS Homo sapiens.
 FH Key Location/Qualifiers
 FT modified_site 24 /note= "Arg in the native sequence is replaced by Phe"
 FT disulfide_bond 11..36
 FT disulfide_bond 12..52
 PN W09513295-A1.
 PD 18-MAY-1995.
 PF 07-NOV-1994; U12874.
 PR 12-NOV-1993; US-152301.
 PA (DAND) DANA FARBER CANCER INST INC.

PI Rollins B, Zhang YJ;
 DR WPI; 95-215051/28.
 PT Human monocyte chemo-attractant protein-1 (MCP-1) derivs. - are
 PT capable of inhibiting the monocyte chemo-attractant activity of
 PT endogenous MCP-1 and can be used to treat restenosis
 PS Claim 5; Page 11; 22pp; English.
 CC Monocyte chemoattractant protein-1 (MCP-1) derivatives are mutated such
 CC that they inhibit the monocyte chemoattractant activity of endogenous
 CC MCP-1, provided that the derivative has not been modified by the
 CC substitution of 28-Tyr by Leu and/or 30-Arg by Val. Preferred mutations
 CC are: (1) substitution of 28 Tyr by aspartate; (2) substitution of 24 Arg
 CC by phe; (3) substitution of 3-Asp by Ala; and/or (4) deletion of amino
 CC acids 2-8. The present sequence is a specifically claimed human MCP-1
 CC derivative based on the parent protein disclosed in Rollins, Molecular
 CC and Cellular Biology, Vol. 9, No. 11, pp. 4687-4695, Nov. 1989.
 CC The peptides can be used to prevent restenosis, e.g. in patients
 CC undergoing coronary artery angioplasty.
 SQ Sequence 76 AA;

Query Match 100.0%; Score 97; DB 14; Length 76;
 Best Local Similarity 100.0%; Pred. No. 7,70e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Db 50 eicadpckckwq 61
 QY 1 EICADPKCKWQ 12

Search completed: Fri Feb 4 16:54:02 2000
 Job time : 20 secs.

Sa Feb 5 15:14:40 2000

US-09-150-813-38.rsp

 M P S R C H
 (TM)

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MPSrch_pp protein - protein database search, using Smith-Waterman algorithm
 Run on: Fri Feb 4 17:03:54 2000; MasPar time 2.71 Seconds
 125,370 Million cell updates/sec
 Tabular output not generated.

Title: >US-09-150-813-38
 Description: (1-12) from US09150813.pep
 Perfect Score: 102
 Sequence: 1 QVCIDPKLWKI 12

Scoring table: PAM 150
 Gap 15

Searched: 77977 seqs, 28268293 residues

Post-processing: Minimum Match 0%
 Listing first 45 summaries

Database: swiss:prot37
 1:swissprot

Statistics: Mean 26.343; Variance 33.254; scale 0.792

pred. No. is the number of results predicted by chance to have a
 score greater than or equal to the score of the result being printed,
 and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match % | Length | DB ID | Description | Pred. No. |
|------------|-------|---------------|--------|-------|-----------------------------------|-----------|
| 1 | 102 | 100.0 | 89 | 1 | SDF1_MOUSE STROMAL CELL-DERIVED F | 4.02e-11 |
| 2 | 102 | 100.0 | 93 | 1 | SDF1_FELCA STROMAL CELL-DERIVED F | 4.02e-11 |
| 3 | 102 | 100.0 | 93 | 1 | SDF1_HUMAN STROMAL CELL-DERIVED F | 4.02e-11 |
| 4 | 78 | 76.5 | 101 | 1 | IL8_SHEEP INTERLEUKIN-8 PRECURSOR | 3.89e-05 |
| 5 | 78 | 76.5 | 101 | 1 | IL8_CANFA INTERLEUKIN-8 PRECURSOR | 3.89e-05 |
| 6 | 78 | 76.5 | 101 | 1 | IL8_PIG INTERLEUKIN-8 PRECURSOR | 3.89e-05 |
| 7 | 76 | 74.5 | 101 | 1 | IL8_CAVPO INTERLEUKIN-8 PRECURSOR | 1.15e-04 |
| 8 | 75 | 73.5 | 99 | 1 | MCP1_HUMAN MONOCYTE CHEMOTACTIC P | 1.96e-04 |
| 9 | 75 | 73.5 | 99 | 1 | MCP2_BOVIN MONOCYTE CHEMOTACTIC P | 1.96e-04 |
| 10 | 75 | 73.5 | 101 | 1 | IL8_BOVIN MONOCYTE CHEMOTACTIC P | 1.96e-04 |
| 11 | 75 | 73.5 | 101 | 1 | MCP1_CANFA MONOCYTE CHEMOTACTIC P | 1.96e-04 |
| 12 | 74 | 72.5 | 99 | 1 | EOTA_MOUSE MONOCYTE CHEMOTACTIC P | 3.33e-04 |
| 13 | 73 | 71.6 | 97 | 1 | EOTA_RAT MONOCYTE CHEMOTACTIC P | 5.65e-04 |
| 14 | 73 | 71.6 | 97 | 1 | MCP4_HUMAN MONOCYTE CHEMOTACTIC P | 5.65e-04 |
| 15 | 73 | 71.6 | 98 | 1 | MCP4_HUMAN MONOCYTE CHEMOTACTIC P | 5.65e-04 |
| 16 | 72 | 70.6 | 101 | 1 | IL8_RABIT MONOCYTE CHEMOTACTIC P | 9.55e-04 |
| 17 | 72 | 70.6 | 125 | 1 | MIP4_HUMAN MONOCYTE CHEMOTACTIC P | 1.61e-03 |
| 18 | 71 | 69.6 | 89 | 1 | MCP1_RABIT MACROPHAGE INFLAMMATOR | 1.61e-03 |
| 19 | 71 | 69.6 | 97 | 1 | EOTA_HUMAN MONOCYTE CHEMOTACTIC P | 1.61e-03 |
| 20 | 71 | 69.6 | 99 | 1 | MCPA_BOVIN MONOCYTE CHEMOTACTIC P | 2.70e-03 |
| 21 | 70 | 68.6 | 74 | 1 | MCPB_BOVIN MACROPHAGE INFLAMMATOR | 2.70e-03 |
| 22 | 70 | 68.6 | 92 | 1 | M11A_RAT MACROPHAGE INFLAMMATOR | 2.70e-03 |
| 23 | 70 | 68.6 | 96 | 1 | EOTA_CAVPO EOTAXIN PRECURSOR (EOS | 2.70e-03 |

| | | | | | | |
|----|----|------|-----|---|------------------------------------|----------|
| 24 | 70 | 68.6 | 99 | 1 | MCP2_PIG MONOCYTE CHEMOTACTIC P | 2.70e-03 |
| 25 | 70 | 68.6 | 120 | 1 | MCP1_CAVPO MONOCYTE CHEMOTACTIC P | 2.70e-03 |
| 26 | 68 | 66.7 | 91 | 1 | S1SD_MOUSE T-CELL SPECIFIC RANTES | 7.51e-03 |
| 27 | 68 | 66.7 | 92 | 1 | S1SD_RAT T-CELL SPECIFIC RANTES | 7.51e-03 |
| 28 | 68 | 66.7 | 99 | 1 | MCP3_HUMAN MONOCYTE CHEMOTACTIC P | 1.25e-02 |
| 29 | 67 | 65.7 | 148 | 1 | MCP1_MOUSE MONOCYTE CHEMOTACTIC P | 2.06e-02 |
| 30 | 66 | 64.7 | 99 | 1 | IL8_HUMAN INTERLEUKIN-8 PRECURSOR | 2.06e-02 |
| 31 | 66 | 64.7 | 99 | 1 | MCP2_HUMAN MONOCYTE CHEMOTACTIC P | 2.06e-02 |
| 32 | 66 | 64.7 | 104 | 1 | MCP5_MOUSE MONOCYTE CHEMOTACTIC P | 2.06e-02 |
| 33 | 66 | 64.7 | 505 | 1 | C762_SOLME CYTOCHROME P450 76A2 (| 2.06e-02 |
| 34 | 63 | 61.8 | 92 | 1 | M11A_HUMAN MACROPHAGE INFLAMMATOR | 9.03e-02 |
| 35 | 63 | 61.8 | 92 | 1 | M11B_HUMAN MACROPHAGE INFLAMMATOR | 9.03e-02 |
| 36 | 63 | 61.8 | 92 | 1 | M11O_HUMAN TONSILLAR LYMPHOCYTE L | 9.03e-02 |
| 37 | 63 | 61.8 | 93 | 1 | EMFL_CHICK EMBRYO FIBROBLAST PROT | 9.03e-02 |
| 38 | 63 | 61.8 | 103 | 1 | S1SD_PIG T-CELL SPECIFIC RANTES | 1.46e-01 |
| 39 | 62 | 60.8 | 50 | 1 | S1SD_CAVPO T-CELL SPECIFIC RANTES | 1.46e-01 |
| 40 | 62 | 60.8 | 91 | 1 | S1SD_HUMAN T-CELL SPECIFIC RANTES | 1.46e-01 |
| 41 | 62 | 60.8 | 91 | 1 | S1SD_CERTO INTERLEUKIN-8 PRECURSOR | 1.46e-01 |
| 42 | 62 | 60.8 | 101 | 1 | IL8_MACMU INTERLEUKIN-8 PRECURSOR | 3.80e-01 |
| 43 | 62 | 60.8 | 101 | 1 | CCC3_HUMAN CHEMOKINE CC-3 PRECURS | 3.80e-01 |
| 44 | 60 | 58.8 | 109 | 1 | CHL1_YEAST CHL1 PROTEIN. | 3.80e-01 |
| 45 | 60 | 58.8 | 861 | 1 | | |

ALIGNMENTS

| | | | | | | |
|--------|---|-----------|------|----|-----|--|
| RESULT | 1 | | | | | |
| ID | SDF1_MOUSE | STANDARD; | PRT; | 89 | AA. | |
| AC | P40224; | | | | | |
| DT | 01-FEB-1995 (REL. 31, CREATED) | | | | | |
| DT | 01-FEB-1995 (REL. 31, LAST SEQUENCE UPDATE) | | | | | |
| DT | 15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE) | | | | | |
| DE | STROMAL CELL-DERIVED FACTOR 1 PRECURSOR (SDF-1) (PRE-B CELL GROWTH | | | | | |
| DE | DE STIMULATING FACTOR) (PBSF) (12-O-TETRADECANOYLPHORBOL 13-ACETATE | | | | | |
| DE | REPRESSING PROTEIN 1) (TPAR1) (THYMIC LYMPHOMA CELL STIMULATING FACTOR) | | | | | |
| DE | (TLSE). | | | | | |
| GN | SDF1 | | | | | |
| OS | MUS MUSCULUS (MOUSE). | | | | | |
| OC | EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; | | | | | |
| OC | RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; MUS. | | | | | |
| OC | [1] | | | | | |
| RP | SEQUENCE FROM N.A. | | | | | |
| RP | MEDLINE: 94181581. | | | | | |
| RP | NAGASAWA T., KIKUTANI H., KISHIMOTO T.; | | | | | |
| RA | "Molecular cloning and structure of a pre-B-cell growth-stimulating | | | | | |
| RT | factor."; | | | | | |
| RT | PROC. NATL. ACAD. SCI. U.S.A. 91:2305-2309(1994). | | | | | |
| RL | [2] | | | | | |
| RP | SEQUENCE FROM N.A. | | | | | |
| RP | MEDLINE: 93342488. | | | | | |
| RA | TASHIRO K., TADA H., HEILKER R., SHIROZU M., NAKANO T., HONJO T.; | | | | | |
| RT | "Signal sequence trap: a cloning strategy for secreted proteins and | | | | | |
| RL | type I membrane proteins."; | | | | | |
| RL | SCIENCE 261:600-603(1993). | | | | | |
| RL | [3] | | | | | |
| RP | SEQUENCE FROM N.A. | | | | | |
| RP | MEDLINE: 95073497. | | | | | |
| RA | JIANG W., ZHOU P., KAHN S.M., TOMITA N., JOHNSON M.D., | | | | | |
| RA | WEINSTEIN I.B.; | | | | | |
| RT | "Molecular cloning of tpari, a gene whose expression is repressed by | | | | | |
| RT | the tumor promoter 12-O-tetradecanoylphorbol 13-acetate (TPA)."; | | | | | |
| RL | EXP. CELL RES. 215:284-293(1994). | | | | | |
| RL | [4] | | | | | |
| RP | SEQUENCE FROM N.A. | | | | | |
| RP | STRAIN-AKR/J; | | | | | |
| RC | NOMURA M., NAKATA Y., UZAWA A., NOSE M., AKASHI M., SUZUKI G.; | | | | | |
| RA | SUBMITTED (DEC-1994) TO EMBL/GENBANK/DBJ DATA BANKS. | | | | | |
| RL | -!- FUNCTION: CHEMOATTRACTANT ACTIVE ON T-LYMPHOCYTES, MONOCYTES, BUT | | | | | |
| CC | NOT NEUTROPHILS. | | | | | |
| CC | -!- FUNCTION: STIMULATES THE PROLIFERATION OF BONE MARROW-DERIVED B | | | | | |
| CC | PROGENITOR CELLS IN THE PRESENCE OF IL-7 AS WELL AS GROWTH OF THE | | | | | |
| CC | STROMAL CELL-DEPENDENT B-CELL CLONE DW34 CELLS. | | | | | |
| CC | -!- ALTERNATIVE PRODUCTS: TWO DIFFERENT FORMS; ALPHA (SHOWN HERE) AND | | | | | |

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EMBL; U16752; G571508; -
EMBL; L36033; G1220366; -
PDB; 1SDF; 28-JAN-98.
PDB; 2SDF; 17-JUN-98.
PDB; 1A15; 12-AUG-98.
MIN; 600835; -
PROSITE; PS00471; SMALL_CYTOKINES_CXC; FALSE_NEG.
PFAM; PF00048; IL8; 1.
CYTOKINE; CHEMOTAXIS; GROWTH FACTOR; SIGNAL; ALTERNATIVE SPLICING;
3D-STRUCTURE. 1 19 POTENTIAL.
FT SIGNAL 20 93 STROMAL CELL-DERIVED FACTOR 1.
FT CHAIN 30 55
FT DISULFID 32 71
FT DISULFID 32 71
FT VARSPLIC 90 93 MISSING (IN FORM ALPHA).
SQ SEQUENCE 93 AA; 10666 MW; 4B9911C7 CRC32;
Query Match 100.0%; Score 102; DB 1; Length 93;
Best Local Similarity 100.0%; Pred. No. 4.02e-11; Indels 0; Gaps 0;
Matches 12; Conservative 0; Mismatches 0;
Db 69 QVCIDPKLWKIQ 80
QY 1 QVCIDPKLWKIQ 12
RESULT 4
ID IL8 SHEEP STANDARD; PRT; 101 AA.
AC P36925;
DT 01-JUN-1994 (REL. 29, CREATED)
DT 01-JUN-1994 (REL. 29, LAST SEQUENCE UPDATE)
DT 01-NOV-1995 (REL. 32, LAST ANNOTATION UPDATE)
DE INTERLEUKIN-8 PRECURSOR (IL-8).
GN IL8.
OS OVIS ARIES (SHEEP).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC ARTIODACTYLA; RUMINANTIA; PECORA; BOVIDAE; CAPRINAE; OVIS.
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE; 95121931.
RA LEGASTELOIS I., GREENLAND T., ARNAUD P., MORNEX J.F., CORDIER G.;
RT "Sequencing of the ovine interleukin-8-encoding cDNA using the
polymerase chain reaction."
RL GENE 150:367-369(1994).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE; 95137691.
RA SEOW H.F., YOSHIMURA T., WOOD P.R., COLDITZ I.G.;
RT "Cloning, sequencing, expression and inflammatory activity in skin of
ovine interleukin-8."
RL IMMUNOL. CELL BIOL. 72:398-405(1994).
CC -!- FUNCTION: IL-8 IS A CHEMOTACTIC FACTOR THAT ATTRACTS NEUTROPHILS,
BASOPHILS, AND T-CELLS, BUT NOT MONOCYTES. IT IS ALSO INVOLVED IN
NEUTROPHIL ACTIVATION. IT IS RELEASED FROM SEVERAL CELL TYPES IN
RESPONSE TO AN INFLAMMATORY STIMULUS.
CC -!- SUBUNIT: HOMODIMER.
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
C-X-C) (CHEMOKINE CXC).
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DR EMBL; X78306; G463254; -
DR EMBL; S74436; G786591; -
DR PIR; S42496; S42496
DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
DR PFAM; PF00048; IL8; 1.
DR HSP; P10145; ILK.
KW CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.
FT SIGNAL 1 22 BY SIMILARITY.
FT CHAIN 23 101 INTERLEUKIN-8.
FT DISULFID 34 61 BY SIMILARITY.
FT DISULFID 36 77 BY SIMILARITY.
SQ SEQUENCE 101 AA; 11292 MW; 5A574527 CRC32;
Query Match 76.5%; Score 78; DB 1; Length 101;
Best Local Similarity 66.7%; Pred. No. 3.89e-05;
Matches 8; Conservative 3; Mismatches 1; Indels 0; Gaps 0;
Db 75 EVCIDPKKWKVQ 86
QY 1 QVCIDPKLWKIQ 12
RESULT 5
ID IL8 CANFA STANDARD; PRT; 101 AA.
AC P41324;
DT 01-FEB-1995 (REL. 31, CREATED)
DT 01-FEB-1995 (REL. 31, LAST SEQUENCE UPDATE)
DT 15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)
DE INTERLEUKIN-8 PRECURSOR (IL-8).
GN IL8.
OS CANIS FAMILIARIS (DOG).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC CARNIVORA; FISSIPEDIA; CANIDAE; CANIS.
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE; 94010328.
RA ISHIKAWA J., SUZUKI S., HOTTA K., HIROTA Y., MIZUNO S., SUZUKI K.;
RT "Cloning of a canine gene homologous to the human
interleukin-8-encoding gene."
RL GENE 131:305-306(1993).
RN [2]
RP SEQUENCE FROM N.A.
RX TISSUE-LYMPH NODE;
RX MEDLINE; 95127913.
RA MATSUMOTO Y., MOHAMED A., ONODERA T., KATO H., OHASHI T.,
RA GOITSUKA R., TSUJIMOTO H., HASEGAWA A., FURUSAWA S., YOSHIIHARA K.,
RA ISHIKAWA J., HOTTA K., SUZUKI K., HIROTA Y.;
RT "Molecular cloning and expression of canine interleukin 8 cDNA."
RL CYTOKINE 6:455-461(1994).
RN [3]
RP SEQUENCE FROM N.A.
RX STRAIN-MONGREL; TISSUE-JUGULAR VEIN;
RX MEDLINE; 95114148.
RA KUKIELKA G.L., SMITH W.C., LAROSA G.J., MANNING A.M.,
RA MENDOZA L.H., DALY T.J., HUGHES B.J., YOUNKER K.A., HAWKINS H.K.,
RA MICHAEL L.H., ROT A., ENTMAN W.L.;
RT "Interleukin-8 gene induction in the myocardium after ischemia and
reperfusion in vivo."
RL J. CLIN. INVEST. 95:89-103(1994).
RN [4]
RP SEQUENCE FROM N.A.
RX STRAIN-BEAGLE;
RX MEDLINE; 97230298.
RA STRAUBINGER R.K., STRAUBINGER A.F., HARTER L., JACOBSON R.H.,
RA CHANG Y.-F., SUMMERS B.A., ERB H.N., APPEL M.J.;
RT "Borrelia burgdorferi migrates into joint capsules and causes an up-
regulation of interleukin-8 in synovial membranes of dogs
experimentally infected with ticks."
RL INFECT. IMMUN. 65:1273-1285(1997).
CC -!- FUNCTION: IL-8 IS A CHEMOTACTIC FACTOR THAT ATTRACTS NEUTROPHILS,
BASOPHILS, AND T-CELLS, BUT NOT MONOCYTES. IT IS ALSO INVOLVED IN
NEUTROPHIL ACTIVATION. IT IS RELEASED FROM SEVERAL CELL TYPES IN
RESPONSE TO AN INFLAMMATORY STIMULUS.

[4] SEQUENCE FROM N.A.
RX MEDLINE; 90290466.
RX SHY Y.J., LI Y.S., KOLIATUKUDY P.E.;
RA "Structure of human monocyte chemotactic protein gene and its
RT regulation by TPA.";
RL BIOCHEM. BIOPHYS. RES. COMMUN. 169:346-351(1990).
[5] SEQUENCE FROM N.A.
RX MEDLINE; 91207938.
RX CHANG H.C., HSU F., FREEMAN G.J., GRIFFIN J.D., REINHARTZ E.L.;
RA "Cloning and expression of a gamma-interferon-inducible gene in
RT monocytes: a new member of a cytokine gene family.";
RL INT. IMMUNOL. 1:388-399(1989).
[6] SEQUENCE FROM N.A.
RX MEDLINE; 94150478.
RX LI Y.S., SHY Y.J., WRIGHT J.G., VALENTE A.J., CORNHILL J.F.,
RA KOLIATUKUDY P.E.;
RT "The expression of monocyte chemotactic protein (MCP-1) in human
RL vascular endothelium in vitro and in vivo.";
[7] SEQUENCE FROM N.A.
RX MEDLINE; 92095166.
RX YOSHIMURA T., LEONARD E.J.;
RA "Human monocyte chemoattractant protein-1 (MCP-1).";
RT ADV. EXP. MED. BIOL. 305:47-56(1991).
[8] SEQUENCE OF 24-99.
RX MEDLINE; 89184525.
RX ROBINSON E.A., YOSHIMURA T., LEONARD E.J., TANAKA S., GRIFFIN P.R.,
RA SHABANOWITZ J., HUNT D.F., APPELLA E.;
RT "Complete amino acid sequence of a human monocyte chemoattractant, a
RL putative mediator of cellular immune reactions.";
[9] SEQUENCE OF 29-53 AND 82-92.
RX MEDLINE; 90211336.
RX DECOCK B., CONINGS R., LENAERTS J.-P., BILIAU A., VAN DAMME J.;
RA "Identification of the monocyte chemotactic protein from human
RT osteosarcoma cells and monocytes: detection of a novel N-terminally
RL processed form.";
[10] BIOCHEM. BIOPHYS. RES. COMMUN. 167:904-909(1990).
RX 3D-STRUCTURE MODELLING.
RX MEDLINE: 91312872.
RX GRONENBORN A.M., CLORE G.M.;
RA "Modeling the three-dimensional structure of the monocyte chemo-
RT attractant and activating protein MCAF/MCP-1 on the basis of the
RL solution structure of interleukin-8.";
[11] X-RAY CRYSTALLOGRAPHY (1.85 ANGSTROMS).
RX MEDLINE: 97143315.
RX LUBKOWSKI J., BUJACZ G., DOMATILLE P.J., HANDEL T.M., WLODAWER A.;
RA "The structure of MCP-1 in two crystal forms provides a rare example
RT of variable quaternary interactions.";
RL NAT. STRUCT. BIOL. 4:64-69(1997).
[12] STRUCTURE BY NMR.
RX MEDLINE; 96234959.
RA HANDEL T.M., DOMATILLE P.J.;
RT "Heteronuclear (1H, 13C, 15N) NMR assignments and solution structure
RL of the monocyte chemoattractant protein-1 (MCP-1) dimer.";
[13] EFFECT OF DELETION OF N-TERMINAL RESIDUES.
RX MEDLINE; 96195223.
RX WEBER M., UGUCCIONI M., BAGGIOLINI M., CLARK-LEWIS I., DAHINDEN C.A.;
RA "Deletion of the NH2-terminal residue converts monocyte chemotactic
RT protein 1 from an activator of basophil mediator release to an
RL eosinophil chemoattractant.";
RT

Sat Feb 5 15:14:40 2000

RT RT "Induction of monocyte chemoattractant protein-1 in the small veins of the ischemic and reperfused canine myocardium.";

RL CIRCULATION 95:693-700(1997).

CC -1- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES, BUT NOT NEUTROPHILS. IMPORTANT FACTOR IN THE COURSE OF THE INFLAMMATORY REACTION TO REPERFUSION OF THE PREVIOUSLY ISCHEMIC MYOCARDIUM.

CC MAY PLAY A SIGNIFICANT ROLE IN MONOCYTE TRAFFICKING INTO THE REPERFUSED MYOCARDIUM.

CC -1- SUBUNIT: MONOMER OR HOMODIMER; IN EQUILIBRIUM (BY SIMILARITY).

CC -1- INDUCTION: BY INF-ALPHA.

CC -1- TISSUE SPECIFICITY: ENDOTHELIUM OF SMALL VEINS AND INTRAFASCICULAR VEINS, AND INFILTRATING LEUKOCYTES.

CC -1- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE C-C) (CHEMOKINE CC).

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CC EMBL: U29653; G1144186;

DR PROSITE; P500472; SMALL_CYTOKINES_CC; 1.

DR PFAM; PF00048; 118; 1.

DR HSP; P13500; 1DON.

DR CYTOKINE; CHEMOTAXIS; SIGNAL; INFLAMMATORY RESPONSE.

FW SIGNAL 1 23 BY SIMILARITY.

FW CHAIN 24 101 MONOCYTE CHEMOTACTIC PROTEIN 1.

FW MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID (BY SIMILARITY).

FW DISULFID 34 59 BY SIMILARITY.

FW DISULFID 35 75 BY SIMILARITY.

FW SEQUENCE 101 AA; 11121 MW; A7075B14 CRC32;

Query Match 73.5%; Score 75; DB 1; Length 101;
Best Local Similarity 58.3%; Pred. No. 1.96e-04;
Matches 7; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

Db 73 EICADPKKWKVQ 84
::: ||| |||
QY 1 QVCIDPKLKWQ 12

RESULT 12
ID MCP1_PIG STANDARD; PRT; 99 AA.
AC P42831;
DT 01-NOV-1995 (REL. 32, CREATED)
DT 01-NOV-1995 (REL. 32, LAST SEQUENCE UPDATE)
DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
DE MONOCYTE CHEMOTACTIC PROTEIN 1 PRECURSOR (MCP-1).
GN SCY22.
OS SUS SCROFA (PIG).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC ARTIODACTYLA; SUIFORMES; SUINA; SUIDAE; SUS.
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE; 94183284.
RA HOSANG K., KNOKE I., KLAUDINY J., WEMPE F., WUTKE W., SCHEIT K.H.;
RT "Porcine luteal cells express monocyte chemoattractant protein-1 (MCP-1): analysis by polymerase chain reaction and cDNA cloning.";
RL BIOCHEM. BIOPHYS. RES. COMMUN. 199:962-968(1994).
RN [2]
RP SEQUENCE FROM N.A.
RC TISSUE-BRAIN;
RA ZACH O.R.F.;
RL SUBMITTED (JUL-1994) TO EMBL/GENBANK/DBJ DATA BANKS.
CC -1- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES, BUT NOT NEUTROPHILS.
CC -1- SUBUNIT: MONOMER OR HOMODIMER; IN EQUILIBRIUM (BY SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE C-C) (CHEMOKINE CC).

RESULT 10
ID IL8_BOVIN STANDARD; PRT; 101 AA.
AC P79255;
DT 01-NOV-1997 (REL. 35, LAST SEQUENCE UPDATE)
DT 01-NOV-1997 (REL. 35, LAST SEQUENCE UPDATE)
DT 01-NOV-1997 (REL. 35, LAST ANNOTATION UPDATE)
DE INTERLEUKIN-8 PRECURSOR (IL-8).
GN IL8.
OS BOS TAURUS (BOVINE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC ARTIODACTYLA; RUMINANTIA; PECORA; BOVIDAE; BOVINAE; BOS.
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE; 96304552.
RA MORSEY M.A., POPOWICH Y., KOWALSKI J., GERLACH G., GODSON D., CAMPOS M., BABIUK L.A.;
RT "Molecular cloning and expression of bovine interleukin-8.";
RL MICROB. PATHOG. 20:203-212(1996).
CC -1- FUNCTION: IL-8 IS A CHEMOTACTIC FACTOR THAT ATTRACTS NEUTROPHILS, BASOPHILS, AND T-CELLS, BUT NOT MONOCYTES. IT IS ALSO INVOLVED IN NEUTROPHIL ACTIVATION. IT IS RELEASED FROM SEVERAL CELL TYPES IN RESPONSE TO AN INFLAMMATORY STIMULUS (BY SIMILARITY).
CC -1- SUBUNIT: HOMODIMER (BY SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE C-X-C) (CHEMOKINE CXCL).

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CC EMBL: S82598; G1699354;

DR PROSITE; P500471; SMALL_CYTOKINES_CXC; 1.

DR PFAM; PF00048; 118; 1.

DR HSP; P10145; 1IKL.

DR CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.

FW SIGNAL 1 22 BY SIMILARITY.

FW CHAIN 23 101 INTERLEUKIN-8.

FW DISULFID 34 61 BY SIMILARITY.

FW DISULFID 36 77 BY SIMILARITY.

FW SEQUENCE 101 AA; 11291 MW; 0E39C526 CRC32;

Query Match 73.5%; Score 75; DB 1; Length 101;
Best Local Similarity 58.3%; Pred. No. 1.96e-04;
Matches 7; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 75 EVCLNPKWKVQ 86
::: ||| |||
QY 1 QVCIDPKLKWQ 12

RESULT 11
ID MCP1_CANFA STANDARD; PRT; 101 AA.
AC P52203;
DT 01-OCT-1996 (REL. 34, CREATED)
DT 01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)
DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
DE MONOCYTE CHEMOTACTIC PROTEIN 1 PRECURSOR (MCP-1) (MONOCYTE CHEMOATTRACTANT PROTEIN-1).
GN SCY22 OR MCP1.
OS CANIS FAMILIARIS (DOG).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC CARNIVORA; FISSIPEDIA; CANIDAE; CANIS.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE-JUGULAR VEIN ENDOTHELIAL;
RX MEDLINE; 97176620.
RA KUMAR A.G., BALLANTYNE C.M., MICHAEL L.H., KUKIELKA G.L., YOUNGER K.A., LINDSEY M.L., HAWKINS H.K., BIRDSALL H.H., MACKAY C.R., LAROSA G.J., ROSSEN R.D., SMITH C.W., ENTMAN M.L.;

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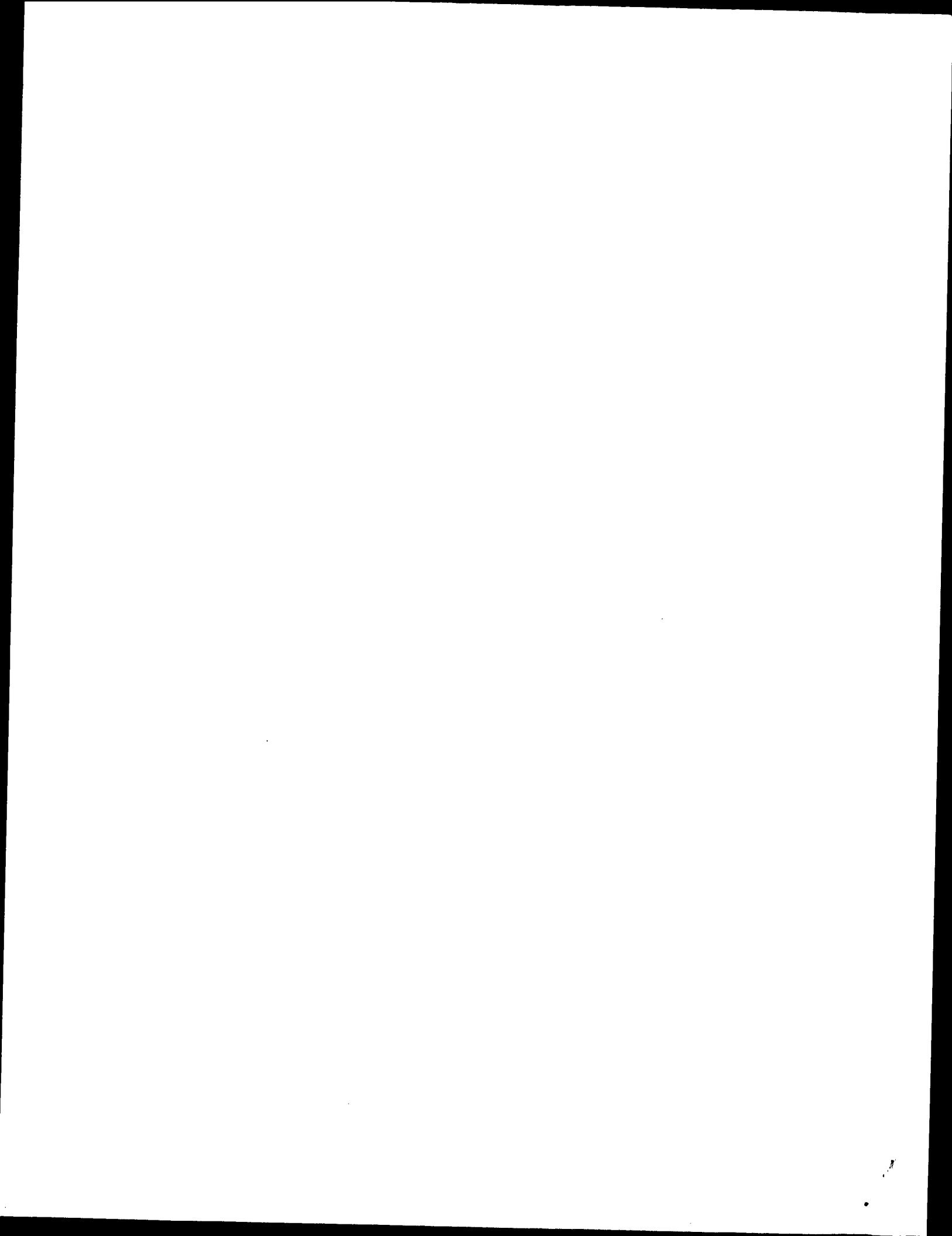
CC C-C) (CHEMOKINE CC).
CC -----
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CC or send an email to license@isb-sib.ch).
CC -----
CC EMBL; U26426; G995911;
CC EMBL; U40672; G1113937;
CC MGD; MGI:103576; SCYAL1
CC PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
CC PFAM; PF00048; 118; 1.
CC DR HSP; P80098; LNCV.
CC KW EOSINOPHIL; CYTOKINE; CHEMOTAXIS; GLYCOPROTEIN; SIGNAL;
CC KW INFLAMMATORY RESPONSE.
CC FT SIGNAL 1 23 POTENTIAL.
CC FT CHAIN 24 97 EOTAXIN.
CC FT DISULFID 32 57 BY SIMILARITY.
CC FT DISULFID 33 73 BY SIMILARITY.
CC SQ SEQUENCE 97 AA; 10893 MW; F85A96BC CRC32;
CC -----
CC Query Match 71.6%; Score 73; DB 1; Length 97;
CC Best Local Similarity 58.3%; Pred. No. 5.65e-04;
CC Matches 7; Conservative 3; Mismatches 2; Indels 0; Gaps 0;
CC -----
CC Db 71 EICADPKKKVQV 82
CC : : | | | | | :
CC QY 1 QVCIDPKLKWIQ 12
CC -----
CC RESULT 14
CC ID EOTA_RAT STANDARD; PRT; 97 AA.
CC AC P97545; O08780;
CC DT 15-JUL-1998 (REL. 36, CREATED)
CC DT 15-JUL-1998 (REL. 36, LAST SEQUENCE UPDATE)
CC DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
CC DE EOTAXIN PRECURSOR (EOSINOPHIL CHEMOTACTIC PROTEIN).
CC OS RATTUS NORVEGICUS (RAT).
CC OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
CC OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; RATTUS.
CC RN [1]
CC RP SEQUENCE FROM N.A.
CC RA WILLIAMS C.M., NEWTON D.J., WILSON S.A., COLEMAN J.C.,
CC RA FLANAGAN B.F.;
CC RL SUBMITTED (DEC-1996) TO EMBL/GENBANK/DBJ DATA BANKS.
CC [2]
CC RP SEQUENCE FROM N.A.
CC RC TISSUE=LUNG;
CC RA ISHII Y.;
CC RL SUBMITTED (MAY-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
CC CC -!- FUNCTION: IN RESPONSE TO THE PRESENCE OF ALLERGENS, THIS PROTEIN
CC DIRECTLY PROMOTES THE ACCUMULATION OF EOSINOPHILS, A PROMINENT
CC FEATURE OF ALLERGIC INFLAMMATORY REACTIONS (BY SIMILARITY).
CC -!- SUBCELLULAR LOCATION: EXTRACELLULAR.
CC -!- PTM: O-GLYCOSYLATED (PROBABLE).
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
CC C-C) (CHEMOKINE CC).
CC -----
CC This SWISS-PROT entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use by non-profit institutions as long as its content is in no way
CC modified and this statement is not removed. Usage by and for commercial
CC entities requires a license agreement (See http://www.isb-sib.ch/
CC or send an email to license@isb-sib.ch).
CC -----
CC EMBL; Y08358; E274141;
CC EMBL; U96637; G2098785;
CC PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
CC PFAM; PF00048; 118; 1.

```

[illegible]

GN SCIR. MON. (HUMAN)
OC OC
DI EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
DI PRIMATES; CATARRHINI; HOMINIDAE; HOMO.
DI [1]
DI SEQUENCE FROM N.A.
DI TISSUE=HEART:
RC MEDLINE: 9711354.
RX GARCIA-ZEPEDA E.A., COMBADIÈRE C., ROTHENBERG M.E., SARAFI M.N.,
RA LAVIGNE F., HAMID Q., MURPHY P.M., LUSTER A.D.;
RA "Human monocyte chemoattractant protein (MCP)-4 is a novel CC
RT chemokine with activities on monocytes, eosinophils, and basophils
FT induced in allergic and nonallergic inflammation that signals through
RT the CC chemokine receptors (CCR)-2 and -3";
RN J. IMMUNOL. 157:5613-5626(1996).
[2]
RN SEQUENCE FROM N.A., AND SEQUENCE OF 17-98.
RP TISSUE=FETAL;
RC MEDLINE: 96235049.
RX UGUCCIONI M., LOETSCHER P., FORSSMANN U., DEWALD B., LI H., LIWA S.H.,
RA LI Y., KREIDER B., GAROTTA G., THELEN M., BAGGIOLINI M.;
RA "Monocyte chemoattractant protein 4 (MCP-4), a novel structural and
RT functional analogue of MCP-3 and eotaxin.";
RN J. EXP. MED. 183:2379-2384(1996).
[3]

RP SEQUENCE FROM N.A., AND SEQUENCE OF 22-33.
RX MEDLINE: 97341179.
RA BERKHOUT T.A., SARAU H.M., MOORES K., WHITE J.R., ELSHOUBAGY N.,
RA APPELBAUM E., REAPE T.J., BRAUNER M., MAKWANA J., FOLEY J.J.,
RA SCHMIDT D.B., IMBURGIA C., MACNULTY D., MATTHEWS J., O'DONNELL K.,
RA O'SHANNESSEY D., SCOTT M., GROOT P.H.E., MACPHEE C.;
RT "Cloning, in vitro expression, and functional characterization of a
RT novel human CC chemokine of the monocyte chemotactic protein (MCP)
RT family (MCP-4) that binds and signals through the CC chemokine
RT receptor 2B."; RT
RL J. BIOL. CHEM. 272:16404-16413(1997).
RN [4]
RN SEQUENCE FROM N.A.
RA DANTE M., GIBSON A.;
RL SUBMITTED (AUG-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [5]
RN SEQUENCE FROM N.A.
RP TISSUE=LUNG;
RC POWER C.A., MEYER A., RISON S.C.G., GUYE-COULIN F., WELLS T.N.C.;



 M P S R C H
 (TM)

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MPSrch_pp protein - protein database search, using Smith-Waterman algorithm

Run on: Fri Feb 4 17:03:15 2000; MasPar time 3.60 Seconds
 133.382 Million cell updates/sec

Tabular output not generated.

Title: >US-09-150-813-38
 Description: (1-12) from US09150813.p
 Perfect Score: 102
 Sequence: 1 QVCIDPKLKWIQ 12

Scoring table: PAM 150
 Gap 15

Searched: 122810 seqs, 40068593 residues

Post-processing: Minimum Match 0%
 Listing first 45 summaries

Database: pir60
 1:pir1 2:pir2 3:pir3 4:pir4

Statistics: Mean 25.707; Variance 37.444; scale 0.687

pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match % | Length | ID | Description | Pred. No. |
|------------|-------|---------------|--------|----|---|-----------|
| 1 | 102 | 100.0 | 89 | 2 | I53416 interleukin-8 homolog | 2.50e-09 |
| 2 | 102 | 100.0 | 89 | 2 | A53497 pre-B-cell growth-stimulating factor precursor - mouse | 2.50e-09 |
| 3 | 102 | 100.0 | 93 | 2 | G01540 cytokine SDF-1-beta | 2.50e-09 |
| 4 | 102 | 100.0 | 93 | 2 | I81182 cytokine - mouse | 2.50e-09 |
| 5 | 78 | 76.5 | 95 | 2 | JN0841 interleukin-8 - dog | 4.52e-04 |
| 6 | 78 | 76.5 | 101 | 2 | S42496 interleukin-8 - sheep | 4.52e-04 |
| 7 | 78 | 76.5 | 101 | 2 | I46997 interleukin-8 - sheep | 4.52e-04 |
| 8 | 78 | 76.5 | 103 | 2 | A53096 interleukin-8 precursor | 4.52e-04 |
| 9 | 78 | 76.5 | 103 | 2 | A44253 alveolar macrophage c | 4.52e-04 |
| 10 | 76 | 74.5 | 101 | 2 | I48148 Neutrophil attractant | 1.17e-03 |
| 11 | 75 | 73.5 | 99 | 2 | A60299 monocyte chemoattract | 1.88e-03 |
| 12 | 74 | 72.5 | 99 | 2 | JC2136 monocyte chemoattract | 3.00e-03 |
| 13 | 72 | 70.6 | 101 | 2 | I46871 interleukin-8 - rabbit | 7.60e-03 |
| 14 | 72 | 70.6 | 125 | 2 | JC2336 monocyte chemoattract | 7.60e-03 |
| 15 | 71 | 69.6 | 99 | 2 | JC2336 monocyte chemoattract | 1.20e-02 |
| 16 | 71 | 69.6 | 99 | 2 | A32996 monocyte chemoattract | 1.20e-02 |
| 17 | 70 | 68.6 | 92 | 2 | I52322 macrophage inflammatory | 1.90e-02 |
| 18 | 70 | 68.6 | 96 | 2 | I80999 eotaxin precursor - g | 1.90e-02 |
| 19 | 70 | 68.6 | 96 | 2 | JC2478 eotaxin precursor - r | 1.90e-02 |
| 20 | 70 | 68.6 | 99 | 2 | JC2417 monocyte chemoattract | 1.90e-02 |
| 21 | 70 | 68.6 | 120 | 2 | I48147 monocyte chemoattract | 4.70e-02 |
| 22 | 68 | 66.7 | 91 | 1 | A46539 monocyte chemoattract | 4.70e-02 |
| 23 | 68 | 66.7 | 97 | 2 | JC4912 eotaxin precursor - h | 4.70e-02 |

24 68 66.7 109 2 A54678 monocyte chemotactic 4.70e-02
 25 67 65.7 148 2 A30209 PDGF-inducible JE gly 7.38e-02
 26 66 64.7 99 2 JC5295 monocyte chemotactic 1.15e-01
 27 66 64.7 99 2 A37034 interleukin-8 precurs 1.15e-01
 28 66 64.7 505 2 S38534 cytochrome P450 76A2 1.15e-01
 29 63 61.8 50 2 C60407 monocyte adherence-in 4.25e-01
 30 63 61.8 92 1 A31767 macrophage inflammato 4.25e-01
 31 63 61.8 92 2 A32393 macrophage inflammato 4.25e-01
 32 63 61.8 92 2 A30574 macrophage inflammato 4.25e-01
 33 63 61.8 93 2 B35673 LD78-beta protein pre 4.25e-01
 34 63 61.8 103 2 A26736 transformation-induce 4.25e-01
 35 63 61.8 103 2 I50417 RSV-induced protein - 4.25e-01
 36 63 61.8 1325 2 T01037 hypothetical protein 4.25e-01
 37 62 60.8 91 1 A28815 monocyte chemoattract 6.53e-01
 38 60 58.8 92 2 I46730 immune activation gen 1.52e+00
 39 60 58.8 478 2 S61192 hypothetical protein 1.52e+00
 40 60 58.8 861 2 S12499 CHL1 protein - yeast 1.52e+00
 41 59 57.8 148 2 S07723 immediate-early serum 2.31e+00
 42 58 56.9 350 2 S51406 hypothetical protein 3.49e+00
 43 58 56.9 899 2 G02428 prohormone convertase 3.49e+00
 44 58 56.9 915 2 JC6148 subtilisin-like propr 3.49e+00
 45 58 56.9 915 2 B48225 probable proprotein c 3.49e+00

ALIGNMENTS

RESULT 1
 ENTRY interleukin-8 homolog - mouse
 TITLE #formal_name Mus sp. #common_name mouse
 ORGANISM 02-Aug-1996 #sequence_revision 02-Aug-1996 #text_change
 DATE 28-Feb-1997

153416 #type complete
 I53416
 Jiang, W.; Zhou, P.; Kahn, S.M.; Tomita, N.; Johnson, M.D.;
 Weinstein, I.B.
 Exp. Cell Res. (1994) 215:284-293
 Molecular cloning of TPARI, a gene whose expression is
 repressed by the tumor promoter 12-O-tetradecanoylphorbol
 13-acetate (TPA).
 13-acetate (TPA).
 #cross-references MUID:95073497

153416
 #accession 153416 preliminary; translated from GB/EMBL/DBJ
 #status
 #molecule_type mRNA
 #residues 1-89 #label RES
 #cross-references GB:S74318; NID:G786393; PID:G786394

GENETICS
 #gene
 TPARI
 #length 89 #molecular-weight 10032 #checksum 4622

SUMMARY
 Query Match 100.0%; Score 102; DB 2; Length 89;
 Best Local Similarity 100.0%; Pred. No. 2.50e-09;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 69 QVCIDPKLKWIQ 80
 QY 1 QVCIDPKLKWIQ 12

RESULT 2
 ENTRY pre-B-cell growth-stimulating factor precursor - mouse
 TITLE #formal_name Mus musculus #common_name house mouse
 ORGANISM 02-Jun-1994 #sequence_revision 02-Jun-1994 #text_change
 DATE 10-Sep-1997

A53497 #type complete
 A53497
 Nagasawa, T.; Kikutani, H.; Kishimoto, T.
 Proc. Natl. Acad. Sci. U.S.A. (1994) 91:2305-2309
 Molecular cloning and structure of a pre-B-cell
 growth-stimulating factor.
 #cross-references MUID:94181581
 #accession A53497

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##status      preliminary
##molecule_type mRNA
##residues    1-89 ##label NAG
##cross-references GB:D21072; NID:g413905; PID:d1005177; PID:g468457
REFERENCE     159582
#authors      Tashiro, K.; Tada, H.; Heilker, R.; Shirozu, M.; Nakano, T.;
#journal      Science (1993) 261:600-603
#title        Signal sequence trap: a cloning strategy for secreted
#              proteins and type I membrane proteins.
#cross-references MUID:93342488
#accession    I59582
##status      preliminary; translated from GB/EMBL/DBJ
##molecule_type mRNA
##residues    1-89 ##label RES
##cross-references GB:LI12029; NID:g393179; PID:g393180
GENETICS      SDF-1-alpha
#gene         cytokine
#keywords     #length 89 #molecular-weight 10032 #checksum 4622
SUMMARY       Query Match 100.0%; Score 102; DB 2; Length 89;
              Best Local Similarity 100.0%; Pred. No. 2.50e-09;
              Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 69 QVCIDPKLKWQ 80
   |||||
QY 1 QVCIDPKLKWQ 12

RESULT 3
ENTRY   G01540 #type complete
TITLE   cytokine SDF-1-beta - human
ORGANISM #formal_name Homo sapiens #common_name man
DATE     21-Dec-1996 #sequence_revision 06-Jun-1997 #text_change
17-Jul-1998
ACCESSIONS G01540
REFERENCE   G07697
#authors    Spetila, L.D.
#submission submitted to the EMBL Data Library, October 1994
#accession  G01540
##status    preliminary; translated from GB/EMBL/DBJ
##molecule_type mRNA
##residues  1-93 ##label SPO
##cross-references EMBL:U16752; NID:g1272194; PID:g571508
SUMMARY     #length 93 #molecular-weight 10666 #checksum 6309

Query Match 100.0%; Score 102; DB 2; Length 93;
Best Local Similarity 100.0%; Pred. No. 2.50e-09;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 69 QVCIDPKLKWQ 80
   |||||
QY 1 QVCIDPKLKWQ 12

RESULT 4
ENTRY   I81182 #type complete
TITLE   cytokine - mouse
ORGANISM #formal_name Mus musculus #common_name house mouse
DATE     02-Aug-1996 #sequence_revision 02-Aug-1996 #text_change
28-Feb-1997
ACCESSIONS I81182
REFERENCE   I59582
#authors    Tashiro, K.; Tada, H.; Heilker, R.; Shirozu, M.; Nakano, T.;
#journal      Science (1993) 261:600-603
#title        Signal sequence trap: a cloning strategy for secreted
#              proteins and type I membrane proteins.
#cross-references MUID:93342488
#accession    I81182
##status      preliminary; translated from GB/EMBL/DBJ
##molecule_type mRNA

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##residues    1-93 ##label RES
##cross-references GB:LI2030; NID:g393181; PID:g393182
GENETICS      SDF-1-beta
#gene         #length 93 #molecular-weight 10561 #checksum 5309
SUMMARY       Query Match 100.0%; Score 102; DB 2; Length 93;
              Best Local Similarity 100.0%; Pred. No. 2.50e-09;
              Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 69 QVCIDPKLKWQ 80
   |||||
QY 1 QVCIDPKLKWQ 12

RESULT 5
ENTRY   JN0841 #type complete
TITLE   interleukin-8 - dog
ORGANISM #formal_name Canis lupus familiaris #common_name dog
DATE     19-May-1994 #sequence_revision 19-May-1994 #text_change
12-Apr-1995
ACCESSIONS JN0841
REFERENCE   JN0841
#authors    Ishikawa, J.; Suzuki, S.; Hotta, K.; Hirota, Y.; Mizuno, S.;
#journal      Suzuki, K.
#title        Gene (1993) 131:305-306
#              Cloning of a canine gene homologous to the human
#              interleukin-8-encoding gene.
#cross-references MUID:94010328
#accession  JN0841
##molecule_type DNA
##residues  1-95 ##label ISH
COMMENT     This protein is a polymorphonuclear leukocytes chemotactic factor
            and is involved in the host defense function.
GENETICS     #introns 22/1; 67/2
CLASSIFICATION #superfamily beta-thromboglobulin
SUMMARY      #length 95 #molecular-weight 10611 #checksum 3157

Query Match 76.5%; Score 78; DB 2; Length 95;
Best Local Similarity 66.7%; Pred. No. 4.52e-04;
Matches 8; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

Db 75 EYCLDPKPKWQ 86
   |||||
QY 1 QVCIDPKLKWQ 12

RESULT 6
ENTRY   S42496 #type complete
TITLE   interleukin 8 - sheep
ORGANISM #formal_name Ovis orientalis aries, Ovis ammon aries
DATE     06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change
08-Sep-1997
ACCESSIONS S42496
REFERENCE   S42496
#authors    Legastelois, I.; Greenland, T.; Arnaud, P.; Mornex, J.F.;
#              Cordier, G.
#submission submitted to the EMBL Data Library, March 1994
#description Nucleotide sequence of ovine interleukin 8 cDNA using
#              polymerase chain reaction.
#accession  S42496
##status    preliminary
##molecule_type mRNA
##residues  1-101 #label LEG
##cross-references EMBL:X78306; NID:g463253; PID:g463254
SUMMARY     #length 101 #molecular-weight 11292 #checksum 294

Query Match 76.5%; Score 78; DB 2; Length 101;
Best Local Similarity 66.7%; Pred. No. 4.52e-04;
Matches 8; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

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Sat_Feb 5 15:14:39 2000

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ORGANISM #formal_name Sus scrofa domestica #common_name domestic pig
DATE 30-Apr-1993 #sequence_revision 18-Nov-1994 #text_change
23-Feb-1996
ACCESSIONS A44253
REFERENCE A44253
#authors Goodman, R.B.; Foster, D.C.; Mathewes, S.L.; Osborn, S.G.;
#journal Kuijper, J.L.; Forstrom, J.W.; Martin, T.R.
#title Biochemistry (1992) 31:10483-10490
#title Molecular cloning of porcine alveolar macrophage-derived
neutrophil chemotactic factors I and II; identification of
porcine IL-8 and another intercrine-alpha protein.
#cross-references MUID:93041741
#accession A44253
#status preliminary
#molecule_type mRNA; protein
#residues 1-103 #label GOO
#experimental_source alveolar macrophage
#note sequence extracted from NCBI backbone (NCBIN:117415,
NCBIF:117416)
CLASSIFICATION #superfamily beta-thromboglobulin
SUMMARY #length 103 #molecular-weight 11677 #checksum 8904
Query Match 76.5%; Score 78; DB 2; Length 103;
Best Local Similarity 66.7%; Pred. No. 4.52e-04;
Matches 8; Conservative 3; Mismatches 1; Indels 0; Gaps 0;
Db 75 EVCLDPKRWQ 86
:|||||
QY 1 QVCIDPKLWQ 12

RESULT 10
ENTRY I48148 #type complete
TITLE Neutrophil attractant protein-1 - guinea pig
ORGANISM #formal_name Cavia porcellus #common_name guinea pig
DATE 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change
23-Feb-1997
ACCESSIONS I48148
REFERENCE I48148
#authors Yoshimura, T.; Johnson, D.G.
#journal J. Immunol. (1993) 151:6225-6236
#title cDNA cloning and expression of guinea pig neutrophil
attractant protein-1 (NAP-1): NAP-1 is highly conserved in
guinea pig.
#cross-references MUID:94065176
#accession I48148
#status preliminary; translated from GB/EMBL/DBJ
#molecule_type DNA
#residues 1-101 #label RES
#cross-references GB:L04986; NID:g459764; PID:g459765
GENETICS NAP-1
#gene
CLASSIFICATION #superfamily beta-thromboglobulin
SUMMARY #length 101 #molecular-weight 11414 #checksum 2363
Query Match 74.5%; Score 76; DB 2; Length 101;
Best Local Similarity 66.7%; Pred. No. 1.17e-03;
Matches 8; Conservative 3; Mismatches 1; Indels 0; Gaps 0;
Db 75 QVCIDPKLWQ 86
:|||||
QY 1 QVCIDPKLWQ 12

RESULT 11
ENTRY A60299 #type complete
TITLE monocyte chemoattractant protein 1 precursor - human
ALTERNATE_NAMES GDCF-1; glioma-derived monocyte chemotactic factor 1; MCAF;
MCP-1; monocyte chemotactic factor 1; monocyte secretory
protein; tumor-derived chemotactic factor 2 (GDCF-2)
CONTAINS glioma-derived chemotactic factor 2 (GDCF-2)
ORGANISM #formal_name Homo sapiens #common_name man
DATE 20-Feb-1993 #sequence_revision 20-Feb-1993 #text_change

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Db 75 EVCLDPKRWQ 86
:|||||
QY 1 QVCIDPKLWQ 12

RESULT 7
ENTRY I46997 #type complete
TITLE interleukin-8 - sheep
ORGANISM #formal_name Ovis sp. #common_name sheep
DATE 21-Feb-1997 #sequence_revision 21-Feb-1997 #text_change
09-May-1997
ACCESSIONS I46997
REFERENCE I46997
#authors Seow, H.F.; Yoshimura, T.; Wood, P.R.; Colditz, I.G.
#journal Immunol. Cell Biol. (1994) 72:398-405
#title Cloning, sequencing, expression and inflammatory activity in
skin of ovine interleukin-8.
#cross-references MUID:95137691
#accession I46997
#status preliminary; translated from GB/EMBL/DBJ
#molecule_type mRNA
#residues 1-101 #label SEO
#cross-references GB:S74436; NID:g786590; PID:g786591
GENETICS oIL-8
#gene
CLASSIFICATION #superfamily beta-thromboglobulin
SUMMARY #length 101 #molecular-weight 11292 #checksum 294
Query Match 76.5%; Score 78; DB 2; Length 101;
Best Local Similarity 66.7%; Pred. No. 4.52e-04;
Matches 8; Conservative 3; Mismatches 1; Indels 0; Gaps 0;
Db 75 EVCLDPKRWQ 86
:|||||
QY 1 QVCIDPKLWQ 12

RESULT 8
ENTRY A53096 #type complete
TITLE interleukin-8 precursor - pig
ORGANISM #formal_name Sus scrofa domestica #common_name domestic pig
DATE 02-Jun-1995 #sequence_revision 02-Jun-1995 #text_change
08-Sep-1997
ACCESSIONS A53096
REFERENCE A53096
#authors Lin, G.; Pearson, A.E.; Scamurra, R.W.; Zhou, Y.; Baarsch,
M.J.; Weiss, D.J.; Murtaugh, M.P.
#journal J. Biol. Chem. (1994) 269:77-85
#title Regulation of interleukin-8 expression in porcine alveolar
macrophages by bacterial lipopolysaccharide.
#cross-references MUID:94103307
#accession A53096
#status preliminary
#molecule_type mRNA
#residues 1-103 #label LIN
#cross-references GB:M86923; NID:g164520; PID:g164521
CLASSIFICATION #superfamily beta-thromboglobulin
SUMMARY #length 103 #molecular-weight 11633 #checksum 8835
Query Match 76.5%; Score 78; DB 2; Length 103;
Best Local Similarity 66.7%; Pred. No. 4.52e-04;
Matches 8; Conservative 3; Mismatches 1; Indels 0; Gaps 0;
Db 75 EVCLDPKRWQ 86
:|||||
QY 1 QVCIDPKLWQ 12

RESULT 9
ENTRY A44253 #type complete
TITLE alveolar macrophage chemotactic factor-I (AMCF-I)
interleukin-8 homolog - pig

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| ACCESSIONS | 20-Mar-1998 | REFERENCE | A33396 |
|---|-------------|-------------------|--|
| A33474; A33476; S03339; I51841; A60299; A32300; A32396; | | #authors | Robinson, E.A.; Yoshimura, T.; Leonard, E.J.; Tanaka, S.; Griffin, P.R.; Shabanowitz, J.; Hunt, D.F.; Appella, E.; Proc. Natl. Acad. Sci. U.S.A. (1989) 86:1850-1854 |
| A34561; I57488; JC1096 | | #journal | Complete amino acid sequence of a human monocyte chemoattractant, a putative mediator of cellular immune reactions. |
| A35474 | | #title | |
| Shyy, Y.J.; Li, Y.S.; Kolattukudy, P.E. | | #cross-references | MUID:89184525 |
| Biochem. Biophys. Res. Commun. (1990) 169:346-351 | | #accession | A32396 |
| Structure of human monocyte chemoattractant protein gene and its regulation by TPA. | | ##molecule_type | protein |
| regulation by TPA. | | ##residues | 25-99 |
| regulation by TPA. | | ##label | ROB |
| regulation by TPA. | | #authors | Decock, B.; Conings, R.; Lenaerts, J.P.; Billiau, A.; Van Damme, J. |
| regulation by TPA. | | #journal | Biochem. Biophys. Res. Commun. (1990) 167:904-909 |
| regulation by TPA. | | #title | Identification of the monocyte chemoattractant protein from human osteosarcoma cells and monocytes: detection of a novel N-terminally processed form. |
| regulation by TPA. | | #cross-references | MUID:90211336 |
| regulation by TPA. | | #accession | A34561 |
| regulation by TPA. | | ##molecule_type | protein |
| regulation by TPA. | | ##residues | 29-33, 'XX', '36-52:82-92 |
| regulation by TPA. | | ##label | DEC |
| regulation by TPA. | | #authors | Li, Y.S.; Shyy, Y.J.; Wright, J.G.; Valente, A.J.; Cornhill, J.F.; Kolattukudy, P.E. |
| regulation by TPA. | | #journal | Mol. Cell. Biochem. (1993) 126:61-68 |
| regulation by TPA. | | #title | The expression of monocyte chemoattractant protein (MCP-1) in human vascular endothelium in vitro and in vivo. |
| regulation by TPA. | | #cross-references | MUID:94150478 |
| regulation by TPA. | | #accession | I57488 |
| regulation by TPA. | | ##status | translated from GB/EMBL/DBJ |
| regulation by TPA. | | ##molecule_type | mRNA |
| regulation by TPA. | | ##residues | 1-99 |
| regulation by TPA. | | ##label | LIY |
| regulation by TPA. | | #cross-references | GB:S69738; NID:G545464; PID:G545465 |
| regulation by TPA. | | #journal | JC1096 |
| regulation by TPA. | | #title | Ye, Q.N.; Su, G.F.; Yuan, Y.; Huang, C.F. |
| regulation by TPA. | | #cross-references | Chinese J. Microbiol. Immunol. (1994) 14:29-32 |
| regulation by TPA. | | #accession | The PCR, cloning and sequencing of human monocyte chemoattractant protein-1 (MCP-1) gene. |
| regulation by TPA. | | #journal | JC1096 |
| regulation by TPA. | | #title | |
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| regulation by TPA. | | #accession | The PCR, cloning and sequencing of human monocyte chemoattractant protein-1 (MCP-1) gene. |
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| regulation by TPA. | | #journal | JC1096 |
| regulation by TPA. | | #title | Ye, Q.N.; Su, G.F.; Yuan, Y.; Huang, C.F. |

Sat_Feb 5 15:14:39 2000

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17-Mar-1999
JC2136; S57498
JC2136
Hosang, K.; Knoke, I.; Klaudiny, J.; Wempe, F.; Wuttke, W.;
Scheit, K.H.
Biochem. Biophys. Res. Commun. (1994) 199:962-968
Porcine luteal cells express monocyte chemoattractant
protein-1 (MCP-1): Analysis by polymerase chain reaction
and cDNA cloning.
#cross-references MUID:94183284
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S57497
#authors Zach, O.
#submission submitted to the EMBL Data Library, July 1994
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#predicted #label MAT\
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Best Local Similarity 50.0%; Pred. No. 3.00e-03;
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REFERENCE Yoshimura, T.; Yuhki, N.
#authors J. Immunol. (1991) 146:3483-3488
#journal Neutrophil attractant/activation protein-1 and monocyte
#title Chemoattractant protein-1 in rabbit: cDNA cloning and their
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Matches 7; Conservative 4; Mismatches 1; Indels 0; Gaps 0;
Db 75 EICADPKKQWQ 86
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QY 1 QVCIDPKLKWQ 12
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ORGANISM #formal_name Oryctolagus cuniculus #common_name domestic
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DATE 14-Feb-1997 #sequence_revision 14-Feb-1997 #text_change
ACCESSIONS I46857
REFERENCE Yoshimura, T.; Yuhki, N.
#authors J. Immunol. (1991) 146:3483-3488
#journal Neutrophil attractant/activation protein-1 and monocyte
#title Chemoattractant protein-1 in rabbit: cDNA cloning and their
expression in spleen cells.
#cross-references MUID:91225489
#accession I46857
#status preliminary; translated from GB/EMBL/DBJ
#molecule_type mRNA
#residues 1-125 #label YOS
#cross-references GB:M57440; NID:g165469; PID:g165470
CLASSIFICATION #superfamily macrophage inflammatory protein
SUMMARY #length 125 #molecular-weight 13776 #checksum 4498
Query Match 70.6%; Score 72; DB 2; Length 125;
Best Local Similarity 63.6%; Pred. No. 7.60e-03;
Matches 7; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
Db 74 ICADPKKQWQ 84
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QY 2 VCIDPKLKWQ 12
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TITLE monocyte chemoattractant protein-1 - bovine
ORGANISM #formal_name Bos primigenius indicus #common_name zebu cattle
DATE 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change
ACCESSIONS JC2336
REFERENCE Wempe, F.; Kuhlmann, J.K.; Scheit, K.H.
#authors Biochem. Biophys. Res. Commun. (1994) 202:1272-1279
#journal Characterization of the bovine monocyte chemoattractant
#title protein-1 gene.
#cross-references MUID:94338337
#accession JC2336
#molecule_type protein
#residues 1-99 #label WEM
GENETICS MCP-1
#gene 26/1; 65/2
#introns #superfamily macrophage inflammatory protein
CLASSIFICATION #length 99 #molecular-weight 11114 #checksum 9401
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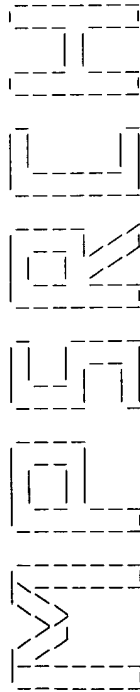
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Sat Feb 5 15:14:39 2000

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Search completed: Fri Feb 4 17:03:37 2000
Job time : 22 secs.

US-09-150-813-38.rpr



Release 3.1A John F. Collins, Biocomputing Research Unit.
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MPsrch_pp protein - protein database search, using Smith-Waterman algorithm

Run on: Fri Feb 4 17:02:38 2000; Maspar time 3.51 Seconds
72.732 Million cell updates/sec

Tabular output not generated.

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Description: (1-12) from US09150813.pep
Perfect Score: 102
Sequence: 1 QVCIDPKLKWIQ 12

Scoring table: PAM 150
Gap 15

Searched: 170751 seqs, 21266608 residues

Post-processing: Minimum Match 0%
Listing first 45 summaries

Database:

a-geneseq35
1:part1 2:part2 3:part3 4:part4 5:part5 6:part6 7:part7
8:part8 9:part9 10:part10 11:part11 12:part12 13:part13
14:part14 15:part15 16:part16 17:part17 18:part18
19:part19 20:part20 21:part21 22:part22 23:part23
24:part24 25:part25 26:part26 27:part27 28:part28
29:part29 30:part30 31:part31 32:part32 33:part33
34:part34 35:part35 36:part36 37:part37 38:part38
39:part39

Statistics: Mean 19.335; Variance 66.726; scale 0.290

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match | Length | ID | Description | Pred. No. |
|------------|-------|-------------|--------|----|-----------------------|-----------|
| 1 | 102 | 100.0 | 67 | 31 | Peptide which binds t | 2.78e-03 |
| 2 | 102 | 100.0 | 68 | 31 | Peptide which binds t | 2.78e-03 |
| 3 | 102 | 100.0 | 72 | 31 | Peptide which binds t | 2.78e-03 |
| 4 | 102 | 100.0 | 73 | 31 | Peptide which binds t | 2.78e-03 |
| 5 | 102 | 100.0 | 89 | 13 | Human SDF-1-alpha | 2.78e-03 |
| 6 | 102 | 100.0 | 89 | 31 | Peptide #1 | 2.78e-03 |
| 7 | 102 | 100.0 | 89 | 12 | Protein encoded by cd | 2.78e-03 |
| 8 | 102 | 100.0 | 93 | 31 | Peptide #2 | 2.78e-03 |
| 9 | 102 | 100.0 | 93 | 31 | Human SDF-1 which is | 2.78e-03 |
| 10 | 102 | 100.0 | 93 | 13 | Human SDF-1-beta | 2.78e-03 |
| 11 | 102 | 100.0 | 326 | 35 | Human chemokine SDF-1 | 2.78e-03 |
| 12 | 102 | 100.0 | 328 | 35 | Human chemokine SDF-1 | 2.78e-03 |
| 13 | 76 | 74.5 | 99 | 2 | Human MCF precursor | 1.42e+00 |
| 14 | 75 | 73.5 | 66 | 24 | Monocyte chemoattract | 1.80e+00 |
| 15 | 75 | 73.5 | 67 | 24 | Monocyte chemoattract | 1.80e+00 |
| 16 | 75 | 73.5 | 68 | 24 | Monocyte chemoattract | 1.80e+00 |

| | | | | | | | |
|----|----|------|----|----|--------|-----------------------|----------|
| 17 | 75 | 73.5 | 69 | 24 | W13596 | Monocyte chemoattract | 1.80e+00 |
| 18 | 75 | 73.5 | 69 | 14 | R87678 | des(2-8) MCP-1. | 1.80e+00 |
| 19 | 75 | 73.5 | 76 | 30 | W40175 | Macrophage chemoattra | 1.80e+00 |
| 20 | 75 | 73.5 | 76 | 20 | W09374 | Monocyte chemotactic | 1.80e+00 |
| 21 | 75 | 73.5 | 76 | 5 | R28660 | MCF. | 1.80e+00 |
| 22 | 75 | 73.5 | 76 | 14 | R87676 | (24-Arg) MCP-1. | 1.80e+00 |
| 23 | 75 | 73.5 | 76 | 21 | W1131 | Mature human monocyte | 1.80e+00 |
| 24 | 75 | 73.5 | 76 | 14 | R87680 | Monocyte chemotactic | 1.80e+00 |
| 25 | 75 | 73.5 | 76 | 10 | R53398 | Sense MCP-1. | 1.80e+00 |
| 26 | 75 | 73.5 | 76 | 14 | R87675 | (28-Asp) MCP-1. | 1.80e+00 |
| 27 | 75 | 73.5 | 76 | 1 | P90292 | Peptide from human g1 | 1.80e+00 |
| 28 | 75 | 73.5 | 76 | 14 | R87677 | (3-Ala) MCP-1. | 1.80e+00 |
| 29 | 75 | 73.5 | 77 | 15 | R86859 | Mature MCP-1. | 1.80e+00 |
| 30 | 75 | 73.5 | 99 | 30 | W40174 | Macrophage chemoattra | 1.80e+00 |
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| 32 | 75 | 73.5 | 99 | 2 | P95387 | Human monocyte chemo- | 1.80e+00 |
| 33 | 75 | 73.5 | 99 | 5 | R28663 | MCF. | 1.80e+00 |
| 34 | 75 | 73.5 | 99 | 14 | R73914 | Human monocyte chemo | 1.80e+00 |
| 35 | 73 | 71.6 | 71 | 26 | W22675 | Drol3+ chemokine beta | 2.85e+00 |
| 36 | 73 | 71.6 | 75 | 26 | W22673 | Bac 3 chemokine beta1 | 2.85e+00 |
| 37 | 73 | 71.6 | 75 | 31 | W56690 | Chemokine MCP-4 prote | 2.85e+00 |
| 38 | 73 | 71.6 | 77 | 26 | W22672 | Bac 2 chemokine beta1 | 2.85e+00 |
| 39 | 73 | 71.6 | 79 | 26 | W22674 | Droll/2 chemokine bet | 2.85e+00 |
| 40 | 73 | 71.6 | 82 | 24 | W17665 | Stem cell mobilising | 2.85e+00 |
| 41 | 73 | 71.6 | 82 | 26 | W22671 | Bac 1 chemokine beta1 | 2.85e+00 |
| 42 | 73 | 71.6 | 98 | 26 | W22670 | Human chemokine beta1 | 2.85e+00 |
| 43 | 73 | 71.6 | 98 | 17 | R93087 | Human chemokine beta- | 2.85e+00 |
| 44 | 73 | 71.6 | 98 | 28 | W30191 | Monocyte chemotactic | 2.85e+00 |
| 45 | 73 | 71.6 | 98 | 31 | W56087 | Human monocyte chemo | 2.85e+00 |

ALIGNMENTS

RESULT 1
ID W50760 standard; peptide; 67 AA.

AC W50760:1998 (first entry)
DE Peptide which binds to CXCR4 receptor and is useful for treating HIV.
KW Stromal cell-derived chemokine; SDF-1; human immunodeficiency virus;
HV; CXCR4 receptor; leukocyte-expressed transmembrane domain receptor.
OS Homo sapiens.
PN FR2751658-A1.
PD 30-JAN-1998.
PF 26-JUL-1996; 009477.
PR 26-JUL-1996; FR-009477.
PA (INSP) INST PASTEUR.
PI Arenzana SF, Baggiolini M, Clark LI, Moser B, Virelizier JL;
DR WPI; 98-123039/12.
PT Human stromal cell-derived chemokine, SDF-1 - useful for treating
human immunodeficiency virus infection
PS Claim 2; Page 29; 48pp; French.
CC The invention relates to peptides which bind to a cellular receptor for
CXCR4 chemokines, namely the CXCR4 receptor (also known as leukocyte-
expressed transmembrane domain receptor), especially where the
peptide is human chemokine SDF-1. The peptide can be used to treat or
prevent HIV infections, optionally together with reverse transcriptase
inhibitors, viral protease inhibitors, soluble CD4 receptors, CD4
receptor antagonists, immunotherapy agents, agents for treating HIV-
associated opportunistic infections and/or other CXCR4 or CC chemokines,
especially RANTES, MIP1- alpha, MIP1- beta or MCP1. The peptide can be
used to detect anti-SDF-1 antibodies in biological fluids. This
sequence represents a specifically claimed peptide which binds to the
CXCR4 receptor.

Sequence 67 AA;

Query Match 100.0%; Score 102; DB 31; Length 67;
Best Local Similarity 100.0%; Pred. No. 2.78e-03;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 48 qvcidpklkwig 59

QY 1 QVCIDPKLKWIQ 12

RESULT 2
 ID W50761 standard; peptide; 68 AA.
 AC W50761;
 DT 27-JUL-1998 (first entry)
 DE Peptide which binds to CXCR4 receptor and is useful for treating HIV.
 KW Stromal cell-derived chemokine; SDF-1; human immunodeficiency virus;
 KW HIV; CXCR4 receptor; leukocyte-expressed transmembrane domain receptor.
 OS Homo sapiens.
 PN FR2751658-A1.
 PD 30-JAN-1998.
 PF 26-JUL-1996; 009477.
 PR 26-JUL-1996; FR-009477.
 PA (INSP) INST PASTEUR.
 PI Arenzana SF, Baggiolini M, Clark LI, Moser B, Virelizier JL;
 DR WPI; 98-123039/12.
 PT Human stromal cell-derived chemokine, SDF-1 - useful for treating
 PT human immunodeficiency virus infection
 PS Claim 5; Page 29; 48pp; French.
 CC The invention relates to peptides which bind to a cellular receptor for
 CC CXCR4 chemokines, namely the CXCR4 receptor (also known as leukocyte-
 CC expressed transmembrane domain receptor), especially where the
 CC peptide is human chemokine SDF-1. The peptide can be used to treat or
 CC prevent HIV infections, optionally together with reverse transcriptase
 CC inhibitors, viral protease inhibitors, soluble CD4 receptors, CD4
 CC receptor antagonists, immunotherapy agents, agents for treating HIV-
 CC associated opportunistic infections and/or other CXCR4 or CC chemokines,
 CC especially RANTES, MIP1- alpha , MIP1- beta or MCP1. The peptide can be
 CC used to detect anti-SDF-1 antibodies in biological fluids. This
 CC sequence represents a specifically claimed peptide which binds to the
 CC CXCR4 receptor.
 CC CXCR4 receptor.
 SQ Sequence 68 AA;

Query Match 100.0%; Score 102; DB 31; Length 68;
 Best Local Similarity 100.0%; Pred. No. 2.78e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Db 49 qvcidpklkwiq 60
 | | | | | | | | | |
 QY 1 QVCIDPKLKWIQ 12

RESULT 3
 ID W50762 standard; peptide; 72 AA.
 AC W50762;
 DT 27-JUL-1998 (first entry)
 DE Peptide which binds to CXCR4 receptor and is useful for treating HIV.
 KW Stromal cell-derived chemokine; SDF-1; human immunodeficiency virus;
 KW HIV; CXCR4 receptor; leukocyte-expressed transmembrane domain receptor.
 OS Homo sapiens.
 PN FR2751658-A1.
 PD 30-JAN-1998.
 PF 26-JUL-1996; 009477.
 PR 26-JUL-1996; FR-009477.
 PA (INSP) INST PASTEUR.
 PI Arenzana SF, Baggiolini M, Clark LI, Moser B, Virelizier JL;
 DR WPI; 98-123039/12.
 PT Human stromal cell-derived chemokine, SDF-1 - useful for treating
 PT human immunodeficiency virus infection
 PS Claim 5; Page 29; 48pp; French.
 CC The invention relates to peptides which bind to a cellular receptor for
 CC CXCR4 chemokines, namely the CXCR4 receptor (also known as leukocyte-
 CC expressed transmembrane domain receptor), especially where the
 CC peptide is human chemokine SDF-1. The peptide can be used to treat or
 CC prevent HIV infections, optionally together with reverse transcriptase
 CC inhibitors, viral protease inhibitors, soluble CD4 receptors, CD4
 CC receptor antagonists, immunotherapy agents, agents for treating HIV-
 CC associated opportunistic infections and/or other CXCR4 or CC chemokines,
 CC especially RANTES, MIP1- alpha , MIP1- beta or MCP1. The peptide can be
 CC used to detect anti-SDF-1 antibodies in biological fluids. This
 CC sequence represents a specifically claimed peptide which binds to the
 CC CXCR4 receptor.
 CC CXCR4 receptor.
 SQ Sequence 72 AA;

Query Match 100.0%; Score 102; DB 31; Length 72;
 Best Local Similarity 100.0%; Pred. No. 2.78e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Db 48 qvcidpklkwiq 59
 | | | | | | | | | |
 QY 1 QVCIDPKLKWIQ 12

RESULT 4
 ID W50763 standard; peptide; 73 AA.
 AC W50763;
 DT 27-JUL-1998 (first entry)
 DE Peptide which binds to CXCR4 receptor and is useful for treating HIV.
 KW Stromal cell-derived chemokine; SDF-1; human immunodeficiency virus;
 KW HIV; CXCR4 receptor; leukocyte-expressed transmembrane domain receptor.
 OS Homo sapiens.
 PN FR2751658-A1.
 PD 30-JAN-1998.
 PF 26-JUL-1996; 009477.
 PR 26-JUL-1996; FR-009477.
 PA (INSP) INST PASTEUR.
 PI Arenzana SF, Baggiolini M, Clark LI, Moser B, Virelizier JL;
 DR WPI; 98-123039/12.
 PT Human stromal cell-derived chemokine, SDF-1 - useful for treating
 PT human immunodeficiency virus infection
 PS Claim 5; Page 29; 48pp; French.
 CC The invention relates to peptides which bind to a cellular receptor for
 CC CXCR4 chemokines, namely the CXCR4 receptor (also known as leukocyte-
 CC expressed transmembrane domain receptor), especially where the
 CC peptide is human chemokine SDF-1. The peptide can be used to treat or
 CC prevent HIV infections, optionally together with reverse transcriptase
 CC inhibitors, viral protease inhibitors, soluble CD4 receptors, CD4
 CC receptor antagonists, immunotherapy agents, agents for treating HIV-
 CC associated opportunistic infections and/or other CXCR4 or CC chemokines,
 CC especially RANTES, MIP1- alpha , MIP1- beta or MCP1. The peptide can be
 CC used to detect anti-SDF-1 antibodies in biological fluids. This
 CC sequence represents a specifically claimed peptide which binds to the
 CC CXCR4 receptor.
 CC CXCR4 receptor.
 SQ Sequence 73 AA;

Query Match 100.0%; Score 102; DB 31; Length 73;
 Best Local Similarity 100.0%; Pred. No. 2.78e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Db 49 qvcidpklkwiq 60
 | | | | | | | | | |
 QY 1 QVCIDPKLKWIQ 12

RESULT 5
 ID R75419 standard; Protein; 89 AA.
 AC R75419;
 DT 15-NOV-1995 (first entry)
 DE Human SDF-1-alpha.
 KW SDF-1-alpha; stromal derived factor; hematopoietic cell;
 KW inflammatory disease; infectious disease; AIDS;
 KW neurodegenerative disease.
 OS Homo sapiens.
 FH Key Location/Qualifiers
 FT Peptide i..21
 FT CA2117953-A.
 PN 15-APR-1995.
 PD 12-OCT-1994; 117953.
 PR 14-OCT-1993; JP-280505.
 PA (ONOF) ONO PHARM CO LTD.
 PI Honjo T, Shirozu M, Tada H;
 DR WPI; 95-207311/28.
 DR N-PSDB; Q74086; Q74089.
 PT Polypeptide(s) used for treating diseases relating to undergrown or
 PT abnormal proliferation of haematopoietic cells - e.g. inflammatory

```

PT diseases, infectious diseases, AIDS or neurodegenerative diseases
PS Claim 2; Page 22; 43pp; English.
CC A cDNA library prepared from human SPF-1-alpha cDNA. A positive clone
CC screened with 32P-labeled mouse SPF-1-alpha cDNA. A positive clone
CC screened with an insert of 1.9 kb (Q74089), including an ORF (Q74088)
CC encoding human SDF-1-alpha (R75419). Recombinant hSDF-1-alpha was
CC produced in E. coli and COS cells.
CC Sequence 89 AA;
SQ

Query Match 100.0%; Score 102; DB 13; Length 89;
Best Local Similarity 100.0%; Pred. No. 2.78e-03;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 69 qvcidpklkwiq 80
    |||||
QY 1 QVCIDPKLWQI 12

RESULT 6
ID W50764 standard; peptide; 89 AA.
AC W50764;
DE 27-JUL-1998 (first entry)
DE Peptide #1.
KW Stromal cell-derived chemokine; SDF-1; human immunodeficiency virus;
KW HIV; CXCR4 receptor; leukocyte-expressed transmembrane domain receptor.
OS Synthetic.
PN FR2751658-A1.
PD 30-JAN-1998.
PF 26-JUL-1996; FR-009477.
PR 26-JUL-1996; FR-009477.
PA (INSP) INST PASTEUR.
PI Arenzana SF, Baggiolini M, Clark LI, Moser B, Virelizier JL;
PI WPI; 98-123039/12.
DR Human stromal cell-derived chemokine, SDF-1 - useful for treating
PT Human immunodeficiency virus infection
PT Claim 10; Page 30; 48pp; French.
PS The invention relates to peptides which bind to a cellular receptor for
CC CXCR4 chemokines, namely the CXCR4 receptor (also known as leukocyte-
CC expressed transmembrane domain receptor), especially where the
CC peptide is human chemokine SDF-1. The peptide can be used to treat or
CC prevent HIV infections, optionally together with reverse transcriptase
CC inhibitors, viral protease inhibitors, soluble CD4 receptors, CD4
CC receptor antagonists, immunotherapy agents, agents for treating HIV-
CC associated opportunistic infections and/or other CXC or CC chemokines,
CC especially RANTES, MIP1-alpha, MIP1-beta or MCP1. The peptide can be
CC used to detect anti-SDF-1 antibodies in biological fluids. Peptides
CC of the invention include sequences containing at least 50 per cent
CC identical amino acid residues to W50760 with the exception of the
CC sequences W50764-5.
SQ Sequence 89 AA;

Query Match 100.0%; Score 102; DB 31; Length 89;
Best Local Similarity 100.0%; Pred. No. 2.78e-03;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 69 qvcidpklkwiq 80
    |||||
QY 1 QVCIDPKLWQI 12

RESULT 7
ID R70994 standard; Protein; 89 AA.
AC R70994;
DE 07-JUN-1995 (first entry)
DE Protein encoded by cDNA derived from mouse stroma cell line ST2.
DE Mouse; stroma; cell line; ST2; primer: polymerase chain reaction;
DE amplif; PCR; linker; plasmid; expression vector; PSRT; infection;
KW transformation; E.coli DH5 alpha; cDNA library; signal peptide;
KW anaemia; leukopaenia.
OS Mus musculus.
PN Location/Qualifiers
FH Key 1..19 "signal peptide"
FT peptide

```

CC identical amino acid residues to W50760 with the exception of the
 CC sequences W50764-5.
 SQ Sequence 93 AA;

Query Match 100.0%; Score 102; DB 31; Length 93;
 Best Local Similarity 100.0%; Pred. No. 2.78e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Db 69 qvcidpklkwq 80
 QY 1 QVCIDPKLKWQ 12
 |||||

RESULT 9
 ID W50766 standard; peptide; 93 AA.
 AC W50766;
 DT 27-JUL-1998 (first entry)
 DE Human SDF-1 which is useful for treating HIV.
 KW Stromal cell-derived chemokine; SDF-1; human immunodeficiency virus;
 KW HIV; CXCR4 receptor; leukocyte-expressed transmembrane domain receptor.
 OS Homo sapiens.
 PN FR2751658-A1.
 PD 30-JAN-1998.
 PF 26-JUL-1996; 009477.
 PR 26-JUL-1996; PR-009477.
 PA (INSP) INST PASTEUR.
 PI Arenzana SE, Baggiolini M, Clark LI, Moser B, Virelizier JL;
 DR WPI; 98-123039/12.
 DR F-PSDB; V07076.
 PT Human stromal cell-derived chemokine, SDF-1 - useful for treating
 PS human immunodeficiency virus infection
 PS Claim 4; Figure 5; 48pp; French.
 CC The invention relates to peptides which bind to a cellular receptor for
 CC CXCR4 chemokines, namely the CXCR4 receptor (also known as leukocyte-
 CC expressed transmembrane domain receptor), especially where the
 CC peptide is human chemokine SDF-1. The peptide can be used to treat or
 CC prevent HIV infections, optionally together with reverse transcriptase
 CC inhibitors, viral protease inhibitors, soluble CD4 receptors, CD4
 CC receptor antagonists, immunotherapy agents, agents for treating HIV-
 CC associated opportunistic infections and/or other CXCR4 or CC chemokines,
 CC especially RANTES, MIP1- alpha, MIP1- beta or MCP1. The peptide can be
 CC used to detect anti-SDF-1 antibodies in biological fluids. This
 CC sequence represents human SDF-1.
 SQ Sequence 93 AA;

Query Match 100.0%; Score 102; DB 31; Length 93;
 Best Local Similarity 100.0%; Pred. No. 2.78e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Db 69 qvcidpklkwq 80
 QY 1 QVCIDPKLKWQ 12
 |||||

RESULT 10
 ID R75420 standard; Protein; 93 AA.
 AC R75420;
 DT 15-NOV-1995 (first entry)
 DE Human SDF-1-beta.
 KW SDF-1-beta; stromal derived factor; hematopoietic cell;
 KW inflammatory disease; infectious disease; AIDS;
 KW neurodegenerative disease.
 OS Homo sapiens.
 FH Key Location/Qualifiers
 FT peptide 1..21 /label= Sig_peptide
 FN CA2117953-A.
 PD 15-APR-1995.
 PR 12-OCT-1994; 117953.
 PR 14-OCT-1993; JP-280505.
 PA (ONCY) ONO PHARM CO LTD.
 PI Honjo T, Shirozu M, Tada H;
 DR WPI; 95-207311/28.

DR N-PSDB; Q74090; Q74091.
 PT Polypeptide(s) used for treating diseases relating to undergrown or
 PT abnormal proliferation of haematopoietic cells - e.g. inflammatory
 PT diseases, infectious diseases, AIDS or neurodegenerative diseases
 PS Claim 12; Page 26-27; 43pp; English.
 CC A cDNA library prepared from human pro-B cell line FLEB14 cells was
 CC screened with 32P-labeled mouse SDF-1-alpha cDNA. A positive clone
 CC contained an insert of 3.5 kb (Q74091), including an ORF (Q74090)
 CC encoding human SDF-1-beta (R75420). Recombinant hSDF-1-beta was
 CC produced in E. coli and COS cells.
 SQ Sequence 93 AA;

Query Match 100.0%; Score 102; DB 13; Length 93;
 Best Local Similarity 100.0%; Pred. No. 2.78e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Db 69 qvcidpklkwq 80
 QY 1 QVCIDPKLKWQ 12
 |||||

RESULT 11
 ID W76221 standard; Protein; 326 AA.
 AC W76221;
 DT 02-DEC-1998 (first entry)
 DE Human chemokine SDF-1-alpha domain protein from clone SK2-2.
 KW Chemokine; SDF-1-alpha; chimeric; human; heterologous protein; inhibitor;
 KW receptor; chemotaxis; migratory cell; angiogenesis; bone; regeneration;
 KW cartilage; ligament; tendon; bone marrow; transplant; inflammation;
 KW autoimmune disorder; vaccine adjuvant; antigen presenting cell; cancer;
 KW HIV; human immunodeficiency virus; therapy; prevention.
 OS Homo sapiens.
 OS Synthetic.
 FH Key Location/Qualifiers
 FT peptide 1..30 /label= signal
 FT /note= "signal peptide"
 FT Protein 31..326 /label= SDF-1-alpha
 FT /note= "Chemokine domain"

WO9838212-A2.
 PD 03-SEP-1998.
 PD 27-FEB-1998; U04002.
 PR 28-FEB-1997; US-808720.
 PA (GENY) GENETICS INST INC.
 PI Herrmann SH, Swanberg SL;
 DR WPI; 98-495387/42.
 DR N-PSDB; V56823.
 PT New chimeric polypeptide(s) - comprise chemokine SDF-1-alpha domain, isolated
 PT covalently linked to heterologous polypeptide, used for, e.g.
 PT chemotactic recruitment of migratory cells
 PS Claim 14; Page 45-46; 69pp; English.
 CC This sequence represents a human chemokine SDF-1-alpha domain, isolated
 CC from cDNA clone SK2-2. This sequence is used in the production of a
 CC construct comprising an isolated polynucleotide encoding a chimeric
 CC polypeptide which comprises at least 1 chemokine polypeptide covalently
 CC attached to at least 1 heterologous polypeptide. By including a
 CC heterologous protein in the construction, the chimeric polypeptides
 CC will have longer and increased biological activity and can direct the
 CC chemokine to a particular site. The chimeric polypeptides can also be
 CC designed to inhibit or desensitize chemokine receptors. They can be used
 CC to affect the chemotactic recruitment of migratory cells, e.g. for
 CC stimulating or inhibiting angiogenesis, for regeneration of bone,
 CC cartilage, ligament or tendon, for recruiting transplanted bone marrow
 CC cells to bone marrow, or for treating or preventing inflammatory or
 CC autoimmune disorders. They can also be used as vaccine adjuvants or to
 CC enhance the activity of antigen presenting cells and for treating or
 CC preventing HIV infection. Neutralising antibodies binding to the chimeric
 CC polypeptide may also be useful therapeutics for both conditions
 CC associated with the chemokine corresponding to the chemokine domain of
 CC the chimeric polypeptide and also in the treatment of some forms of
 CC cancer where abnormal expression of the chemokine is involved.
 SQ Sequence 326 AA;

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CC associated with the chemokine corresponding to the chemokine domain of
CC the chimeric polypeptide and also in the treatment of some forms of
CC cancer where abnormal expression of the chemokine is involved.

Query Match 100.0%; Score 102; DB 35; Length 326;
Best Local Similarity 100.0%; Pred. No. 2.78e-03;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 69 qvcidpkklwiq 78
| | | | | | | | | |
QY 1 QVCIDPKLWKIQ 12

RESULT 12 W76220 standard; Protein: 328 AA.

AC 02-DEC-1998 (first entry)
DE Human chemokine SDF-1alpha domain protein from clones SL-2/SL-3.
KW Chemokine; SDF-1alpha; chimeric; human; heterologous protein; inhibitor;
KW receptor; chemotaxis; migratory cell; angiogenesis; bone; regeneration;
KW cartilage; ligament; tendon; bone marrow; transplant; inflammation;
KW autoimmune disorder; vaccine adjuvant; antigen presenting cell; cancer;
KW HIV; human immunodeficiency virus; therapy; prevention.
OS Homo sapiens.
OS Synthetic.

PH Key Location/Qualifiers
FT Peptide 1..20
FT /label= signal
FT /note= "putative signal peptide"
FT Peptide 1..21
FT /label= signal
FT /note= "putative signal peptide"
FT Peptide 1..22
FT /label= signal
FT /note= "putative signal peptide"
FT Protein 21..328
FT /label= SDF-1alpha
FT /note= "Chemokine domain. Putative start of mature protein"
FT Protein 22..328
FT /label= SDF-1alpha
FT /note= "Chemokine domain. Putative start of mature protein"
FT Protein 23..328
FT /label= SDF-1alpha
FT /note= "Chemokine domain. Putative start of mature protein"

W09838212-A2.
03-SEP-1998.
27-FEB-1998; US-808720.
28-FEB-1997; US-808720.
(GEM) GENETICS INST INC.
Heirmann SH, Swanberg SL;
WPI; 98-495387/42.
N-PSDB; V56822.
New chimeric polypeptide(s) - comprise chemokine polypeptide
covalently linked to heterologous polypeptide, used for, e.g.
chemotactic recruitment of migratory cells
Claim 13h: Page 43-44: 69pp; English.
This sequence represents a human chemokine SDF-1alpha domain, isolated
from cDNA clones SL-2 and SL-3. This sequence is used in the production
of a construct comprising an isolated polynucleotide encoding a chimeric
polypeptide which comprises at least 1 chemokine polypeptide covalently
attached to at least 1 heterologous polypeptide. By including a
heterologous protein in the construction, the chimeric polypeptides
will have longer and increased biological activity and can direct the
chemokine to a particular site. The chimeric polypeptides can also be
designed to inhibit or desensitize chemokine receptors. They can be used
to affect the chemotactic recruitment of migratory cells, e.g. for
stimulating or inhibiting angiogenesis, for regeneration of bone,
cartilage, ligament or tendon, for recruiting transplanted bone marrow
cells to bone marrow, or for treating or preventing inflammatory or
autoimmune disorders. They can also be used as vaccine adjuvants or to
enhance the activity of antigen presenting cells and for treating or
preventing HIV infection. Neutralising antibodies binding to the chimeric
polypeptide may also be useful therapeutics for both conditions

Query Match 100.0%; Score 102; DB 35; Length 328;
Best Local Similarity 100.0%; Pred. No. 2.78e-03;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 69 qvcidpkklwiq 80
| | | | | | | | | |
QY 1 QVCIDPKLWKIQ 12

RESULT 13 R06398 standard; protein: 99 AA.

AC R06398; 1990 (first entry)
DE Human MCF precursor.
KW Monocyte chemotactic factor; antibacterial; antitumour; cancer.
OS Homo sapiens.
OS Key Location/Qualifiers

FT Protein 24..99
FT /label=mature MCF
FT /note="Claim 1"
FT misc_difference 76
FT /label=A or T
PN W09007863-A.
26-JUL-1990.
02-JAN-1990; U000004.
01-JAN-1989; JP-026438.
03-FEB-1989; JP-026438.
PA (USDC) US SEC OF COMMERCE.
PI Fututani Y, Fukui T, Junichi Y, Masaaki Y, Matsushima K;
PI Oppenheim J;
PI WPI; 90-253802/33.
DR P-PSDB: R06398.
DR Human monocyte chemotactic factor type polypeptide and DNA
encoding it - useful as antibacterial and antitumour agents.
PT Claim 2; Page 25; 27pp; English.
PS The sequence was deduced from the DNA sequence determined from
three recombinant plasmids, pMCF7, pMCF25 and pMCF29 which
were isolated from a cDNA library prep. from RNA extracted from
human promyelocytic leukaemia cell line, HL-60 (ATCC CCL-240).
CC vectors. In plasmids pMCF7 and pMCF29 bases 105 and 226 were
1 and G resp; in pMCF25 they were C and A resp. The AA at posn.
CC 76 of the precursor protein is therefore not determined and may be
CC either Ala or Thr. The protein may be produced by recombinant
CC DNA techniques in E.coli, and is useful as a drug for treatment of
CC certain bacterial infections and cancers.

Query Match 74.5%; Score 76; DB 2; Length 99;
Best Local Similarity 58.3%; Pred. No. 1.42e+00;
Matches 7; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

Db 73 eicxdpkqkwq 84
| | | | | | | | | |
QY 1 QVCIDPKLWKIQ 12

RESULT 14 W13598 standard; peptide; 66 AA.

AC W13598;
DT 07-NOV-1997 (first entry)
DE Monocyte chemoattractant protein analogue MCP-1 (10-76).
KW Truncated monocyte chemoattractant protein-1; inhibitor;
KW receptor binding; anti inflammatory; basophil; lymphocyte; allergy;
KW chronic inflammatory disease; arthritis; arteriosclerosis;
KW lung disease.
OS Homo sapiens.
PN CA2152141-A.
PD 20-DEC-1996.

PF 19-JUN-1995; 152141.
PR (LEWI/) LEWIS I.
PA
PI Gong J, Lewis I;
DR WPI; 97-165844/16.

PT N-terminally truncated monocyte chemoattractant protein-1 (MCP-1) -
PT lacks MCP-1 activity and inhibits receptor binding, useful as
PT anti-inflammatory agent
PS Disclosure; Page 5; 27pp; English.
CC The present sequence represents an analogue, MCP-1 (10-76), of monocyte
CC chemoattractant protein-1 (MCP-1). The analogue, which lacks the
CC N-terminal amino acids 1-9 of MCP-1, acts as an antagonist of MCP-1
CC as it lacks MCP-1 biological activity and inhibits binding to a MCP-1
CC receptor. The analogue is useful as an anti-inflammatory agent to block
CC the effects of MCP-1 which is an inflammatory mediator causing migration
CC of monocytes and other cells e.g. basophils and lymphocytes into
CC inflammation sites. MCP-1 has been implicated in allergic and chronic
CC inflammatory diseases e.g. arthritis, arteriosclerosis and several lung
CC diseases. The analogue competes more effectively with MCP-1 for binding
CC MCP-1 receptors than prior art mutant versions of MCP-1 e.g. preferably
CC providing 50% inhibition of binding at a 25:1 ratio or less, compared
CC with 75:1 for prior art mutant 7ND.
SQ Sequence 66 AA;

Query Match 73.5%; Score 75; DB 24; Length 66;
Best Local Similarity 58.3%; Pred. No. 1.80e+00;
Matches 7; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

Db 40 eicadpdkqkvq 51
: : | | | | | :
Qy 1 QVCIDPKLKWIQ 12

RESULT 15

ID W13599 standard; peptide; 67 AA.
AC W13599;
DT 07-NOV-1997 (first entry)
DE Monocyte chemoattractant protein analogue MCP-1 (11-76).
KW Truncated monocyte chemoattractant protein-1; inhibitor;
KW receptor binding; anti-inflammatory; basophil; lymphocyte; allergy;
KW chronic inflammatory disease; arthritis; arteriosclerosis;
KW lung disease.
OS Homo sapiens.
PN CA2152141-A.
PD 20-DEC-1996.
PF 19-JUN-1995; 152141.
PR 19-JUN-1995; CA-152141.
PA (LEWI/) LEWIS I.
PI Gong J, Lewis I;
DR WPI; 97-165844/16.
PT N-terminally truncated monocyte chemoattractant protein-1 (MCP-1) -
PT lacks MCP-1 activity and inhibits receptor binding, useful as
PT anti-inflammatory agent
PS Disclosure; Page 5; 27pp; English.
CC The present sequence represents an analogue, MCP-1 (11-76), of monocyte
CC chemoattractant protein-1 (MCP-1). The analogue, which lacks the
CC N-terminal amino acids 1-10 of MCP-1, acts as an antagonist of MCP-1
CC as it lacks MCP-1 biological activity and inhibits binding to a MCP-1
CC receptor. The analogue is useful as an anti-inflammatory agent to block
CC the effects of MCP-1 which is an inflammatory mediator causing migration
CC of monocytes and other cells e.g. basophils and lymphocytes into
CC inflammation sites. MCP-1 has been implicated in allergic and chronic
CC inflammatory diseases e.g. arthritis, arteriosclerosis and several lung
CC diseases. The analogue competes more effectively with MCP-1 for binding
CC MCP-1 receptors than prior art mutant versions of MCP-1 e.g. preferably
CC providing 50% inhibition of binding at a 25:1 ratio or less, compared
CC with 75:1 for prior art mutant 7ND.
SQ Sequence 67 AA;

Query Match 73.5%; Score 75; DB 24; Length 67;
Best Local Similarity 58.3%; Pred. No. 1.80e+00;
Matches 7; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

Db 41 eicadpdkqkvq 52
: : | | | | | :
Qy 1 QVCIDPKLKWIQ 12

Search completed: Fri Feb 4 17:02:58 2000
Job time : 20 secs.

Sat, Feb 5 15:13:51 2000

US-09-150-813-40.rsp

 W A S E L H
 (TM)

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MPsrch_pp protein - protein database search, using Smith-Waterman algorithm
 Run on: Fri Feb 4 17:09:44 2000; Maspar time 2.49 Seconds
 136.407 Million cell updates/sec
 Tabular output not generated.

Title: >US-09-150-813-40
 Description: (1-12) from US09150813.ppt
 Perfect Score: 99
 Sequence: 1 ELCLDPKENWVQ 12
 Scoring table: PAM 150
 Gap 15
 Searched: 77977 seqs, 28268293 residues
 Post-processing: Minimum Match 0%
 Listing first 45 summaries
 Database: swiss-prot37
 1:swissprot
 Statistics: Mean 26.183; Variance 34.228; scale 0.765

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match | Length | ID | Description | Pred. No. |
|------------|-------|-------------|--------|----|---------------|-----------|
| 1 | 99 | 100.0 | 99 | 1 | IL8_HUMAN | 5.80e-10 |
| 2 | 95 | 96.0 | 101 | 1 | IL8_RABIT | 5.72e-09 |
| 3 | 92 | 92.9 | 101 | 1 | IL8_MACMU | 3.12e-08 |
| 4 | 92 | 92.9 | 101 | 1 | IL8_CERTO | 3.12e-08 |
| 5 | 88 | 88.9 | 101 | 1 | IL8_SHEEP | 2.90e-07 |
| 6 | 88 | 88.9 | 101 | 1 | IL8_CANFA | 2.90e-07 |
| 7 | 88 | 88.9 | 101 | 1 | IL8_PIG | 2.90e-07 |
| 8 | 85 | 85.9 | 101 | 1 | IL8_BOVIN | 1.51e-06 |
| 9 | 85 | 85.9 | 101 | 1 | IL8_CAVPO | 1.51e-06 |
| 10 | 81 | 81.8 | 99 | 1 | MCP2_BOVIN | 1.31e-05 |
| 11 | 78 | 78.8 | 98 | 1 | MCP4_BOVIN | 6.44e-05 |
| 12 | 75 | 75.8 | 99 | 1 | MCP1_HUMAN | 3.08e-04 |
| 13 | 75 | 75.8 | 101 | 1 | MCP1_CANFA | 3.08e-04 |
| 14 | 74 | 74.7 | 92 | 1 | MIL1_RAT | 5.17e-04 |
| 15 | 74 | 74.7 | 99 | 1 | MCP1_PIG | 5.17e-04 |
| 16 | 73 | 73.7 | 99 | 1 | MCP2_BOVIN | 8.63e-04 |
| 17 | 72 | 72.7 | 103 | 1 | EMFL_CHICK | 1.44e-03 |
| 18 | 71 | 71.7 | 97 | 1 | EOTA_MOUSE | 2.38e-03 |
| 19 | 71 | 71.7 | 97 | 1 | EOTA_RAT | 2.38e-03 |
| 20 | 71 | 71.7 | 104 | 1 | MCP5_MOUSE | 2.38e-03 |
| 21 | 70 | 70.7 | 97 | 1 | MCPB_BOVIN | 3.93e-03 |
| 22 | 70 | 70.7 | 74 | 1 | EOTAXIN_HUMAN | 3.93e-03 |
| 23 | 70 | 70.7 | 148 | 1 | MCP1_MOUSE | 3.93e-03 |

ALIGNMENTS

| RESULT ID | IL8_HUMAN | STANDARD; | PRT; | 99 AA. |
|-----------|--|-----------|------|--------|
| AC | P10145; | | | |
| DT | 01-MAR-1989 (REL. 10, CREATED) | | | |
| DT | 01-MAR-1989 (REL. 10, LAST SEQUENCE UPDATE) | | | |
| DT | 15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE) | | | |
| DE | INTERLEUKIN-8 PRECURSOR (IL-8) (MONOCYTE-DERIVED NEUTROPHIL | | | |
| DE | CHEMOTACTIC FACTOR) (MDNCF) (T-CELL CHEMOTACTIC FACTOR) (NEUTROPHIL- | | | |
| DE | ACTIVATING PROTEIN 1) (NAP-1) (LYMPHOCYTE-DERIVED NEUTROPHIL- | | | |
| DE | ACTIVATING FACTOR) (LYNAP) (PROTEIN 3-10C) (NEUTROPHIL-ACTIVATING | | | |
| DE | FACTOR) (NAF) (GRANULOCYTE CHEMOTACTIC PROTEIN 1) (GCP-1) (EMOCTAKIN). | | | |
| GN | IL8. | | | |
| OS | HOMO SAPIENS (HUMAN). | | | |
| OC | EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; | | | |
| OC | PRIMATES; CATARRHINI; HOMINIDAE; HOMO. | | | |
| [1] | SEQUENCE FROM N.A. | | | |
| EP | MEDLINE: 88258376. | | | |
| RA | MATSUSHIMA K., MORISHITA K., YOSHIMURA T., LAVU S., KOBAYASHI Y., | | | |
| RA | LEW W., APPELLA E., KUNG H., LEONARD E.J., OPPENHEIM J.J.; | | | |
| RT | "Molecular cloning of a human monocyte-derived neutrophil chemotactic | | | |
| RT | factor (MDNCF) and the induction of MDNCF mRNA by interleukin 1 and | | | |
| RT | tumor necrosis factor"; | | | |
| RL | J. EXP. MED. 167:1883-1893(1988). | | | |
| [2] | SEQUENCE FROM N.A. | | | |
| RP | MEDLINE: 87224164. | | | |
| RA | SCHMID J., WEISSMANN C.; | | | |
| RT | "Induction of mRNA for a serine protease and a | | | |
| RT | beta-thromboglobulin-like protein in mitogen-stimulated human | | | |
| RT | leukocytes"; | | | |
| RL | J. IMMUNOL. 139:250-256(1987). | | | |
| [3] | SEQUENCE FROM N.A. | | | |
| RP | MEDLINE: 89313739. | | | |
| RA | KOWALSKI J., DENHARDT D.T.; | | | |
| RT | "Regulation of the mRNA for monocyte-derived neutrophil-activating | | | |
| RT | peptide in differentiating HL60 promyelocytes."; | | | |
| RL | MOL. CELL. BIOL. 9:1946-1957(1989). | | | |
| [4] | SEQUENCE FROM N.A. | | | |
| RP | MEDLINE: 89309826. | | | |
| RA | MUKAIDA N., SHIROO M., MATSUSHIMA K.; | | | |
| RT | "Genomic structure of the human monocyte-derived neutrophil | | | |
| RT | chemotactic factor IL-8"; | | | |
| RL | J. IMMUNOL. 143:1366-1371(1989). | | | |
| [5] | | | | |

| | | | | | | | |
|----|----|------|-----|---|------------|-------------------------|----------|
| 24 | 69 | 69.7 | 99 | 1 | MCP2_HUMAN | MONOCYTE CHEMOTACTIC P | 6.47e-03 |
| 25 | 69 | 69.7 | 125 | 1 | MCP1_RABIT | MONOCYTE CHEMOTACTIC P | 6.47e-03 |
| 26 | 68 | 68.7 | 99 | 1 | MCP3_HUMAN | MONOCYTE CHEMOTACTIC P | 1.06e-02 |
| 27 | 67 | 67.7 | 92 | 1 | MIL1_MOUSE | MACROPHAGE INFLAMMATOR | 1.74e-02 |
| 28 | 67 | 67.7 | 99 | 1 | MCP2_PIG | MONOCYTE CHEMOTACTIC P | 1.74e-02 |
| 29 | 67 | 67.7 | 120 | 1 | MCP1_CAVPO | MONOCYTE CHEMOTACTIC P | 1.74e-02 |
| 30 | 66 | 66.7 | 89 | 1 | SDF1_MOUSE | STROMAL CELL-DERIVED F | 2.82e-02 |
| 31 | 66 | 66.7 | 92 | 1 | MIL1_HUMAN | MACROPHAGE INFLAMMATOR | 2.82e-02 |
| 32 | 66 | 66.7 | 92 | 1 | MIL1_HUMAN | MACROPHAGE INFLAMMATOR | 2.82e-02 |
| 33 | 66 | 66.7 | 93 | 1 | MIL1_HUMAN | MACROPHAGE INFLAMMATOR | 2.82e-02 |
| 34 | 66 | 66.7 | 93 | 1 | SDF1_HUMAN | STROMAL CELL-DERIVED F | 2.82e-02 |
| 35 | 66 | 66.7 | 93 | 1 | SDF1_FELCA | STROMAL CELL-DERIVED F | 2.82e-02 |
| 36 | 65 | 65.7 | 96 | 1 | EOTA_CAVPO | EOTAXIN PRECURSOR (EOS | 4.58e-02 |
| 37 | 65 | 65.7 | 148 | 1 | MCP1_RAT | MONOCYTE CHEMOTACTIC P | 4.58e-02 |
| 38 | 63 | 63.6 | 90 | 1 | MIL1_CHICK | MACROPHAGE INFLAMMATOR | 1.19e-01 |
| 39 | 63 | 63.6 | 92 | 1 | MIL1_RABIT | MACROPHAGE INFLAMMATOR | 1.19e-01 |
| 40 | 63 | 63.6 | 485 | 1 | IL12_LYCES | 1-AMINOCYCLOPROPANE-1- | 1.90e-01 |
| 41 | 62 | 62.6 | 89 | 1 | MIP4_HUMAN | MACROPHAGE INFLAMMATOR | 1.90e-01 |
| 42 | 60 | 60.6 | 194 | 1 | UREF_HAEIN | UREASE ACCESSORY PROTE | 4.80e-01 |
| 43 | 60 | 60.6 | 432 | 1 | CBAA_ALCSP | 3-CHLOROBENZONATE-3,4-D | 4.80e-01 |
| 44 | 59 | 59.6 | 85 | 1 | KOC2_ECOLI | TRANSCRIPTIONAL REPRER | 7.57e-01 |
| 45 | 59 | 59.6 | 109 | 1 | CCC3_HUMAN | CHEMOKINE CC-3 PRECURS | 7.57e-01 |

RP SEQUENCE FROM N.A.
RA ISHIKAWA J.,
RL SUBMITTED (JAN-1993) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [6]
RP SEQUENCE OF 23-46.
RA MEDLINE; 89246368.
RX GOLDS E.E., MASON P., NVIRKOS P.;
RT "Inflammatory cytokines induce synthesis and secretion of gro protein
RT and a neutrophil chemotactic factor but not beta 2-microglobulin in
RT human synovial cells and fibroblasts.";
RL BIOCHEM. J. 259:585-588(1989).
RN [7]
RP SEQUENCE OF 23-54.
RA MEDLINE; 89279141.
RX SUZUKI K., MIYASAKA H., OTA H., YAMAKAWA Y., TAGAWA M., KURAMOTO A.,
RA MIZUNO S.;
RT "Purification and partial primary sequence of a chemotactic protein
RT for polymorphonuclear leukocytes derived from human lung giant cell
RT carcinoma LU65C cells.";
RL J. EXP. MED. 169:1895-1901(1989).
RN [8]
RP SEQUENCE OF 28-99.
RA MEDLINE; 88162914.
RX GREGORY H., YOUNG J., SCHROEDER J.M., MROWIETZ U., CHRISTOPHERS E.;
RA "Structure determination of a human lymphocyte derived neutrophil
RT activating peptide (LYNAP).";
RL BIOCHEM. BIOPHYS. RES. COMMUN. 151:883-890(1988).
RN [9]
RP SEQUENCE OF 28-59.
RA MEDLINE; 88106502.
RX WALZ A., PEVERI P., ASCHAUER H., BAGGIOLINI M.;
RT "Purification and amino acid sequencing of NAF, a novel neutrophil-
RT activating factor produced by monocytes.";
RL BIOCHEM. BIOPHYS. RES. COMMUN. 149:755-761(1987).
RN [10]
RP SEQUENCE OF 28-69.
RA MEDLINE; 88097482.
RX YOSHIMURA T., MATSUSHIMA K., TANAKA S., ROBINSON E.A., APPELLA E.,
RA OPPENHEIM J.J., LEONARD E.J.;
RT "Purification of a human monocyte-derived neutrophil chemotactic
RT factor that has peptide sequence similarity to other host defense
RT cytokines.";
RL PROC. NATL. ACAD. SCI. U.S.A. 84:9233-9237(1987).
RN [11]
RP STRUCTURE BY NMR.
RX MEDLINE; 90234679.
RA CLORE G.M., APPELLA E., YAMADA M., MATSUSHIMA K., GRONENBORN A.M.;
RL "Three-dimensional structure of interleukin 8 in solution.";
RN BIOCHEMISTRY 29:1689-1696(1990).
RP STRUCTURE BY NMR OF COMPLEX TO RECEPTOR.
RA SKELTON N.J., QUAN C., REILLY D., LOWMAN H.;
RL SUBMITTED (DEC-1998) TO THE PDB DATA BANK.
RN [13]
RP X-RAY CRYSTALLOGRAPHY (1.6 ANGSTROMS).
RX MEDLINE; 90216714.
RA BALDWIN E.T., FRANKLIN K.A., APPELLA E., YAMADA M., MATSUSHIMA K.,
RA WLODAWER A., WEBER I.T.;
RT "Crystallization of human interleukin-8. A protein chemotactic for
RT neutrophils and T-lymphocytes.";
RL J. BIOL. CHEM. 265:6851-6853(1990).
RN [14]
RP X-RAY CRYSTALLOGRAPHY, AND STRUCTURE BY NMR.
RX MEDLINE; 91171286.
RA CLORE G.M., GRONENBORN A.M.;
RT "Comparison of the solution nuclear magnetic resonance and crystal
RT structures of interleukin-8. Possible implications for the mechanism
RT of receptor binding.";
RL J. MOL. BIOL. 217:611-620(1991).
RN [15]
RP X-RAY CRYSTALLOGRAPHY (1.6 ANGSTROMS), AND STRUCTURE BY NMR.
RX MEDLINE; 91110556.
RA BALDWIN E.T., WEBER I.T., ST CHARLES R., XUAN J.C., APPELLA E.,

RA YAMADA M., MATSUSHIMA K., EDWARDS B.F., CLORE G.M., GRONENBORN A.M.;
RT "Crystal structure of interleukin 8: symbiosis of NMR and
RT crystallography.";
RL PROC. NATL. ACAD. SCI. U.S.A. 88:502-506(1991).
RN [16]
RP N-TERMINAL FORMS.
RX MEDLINE; 91006326.
RA VAN DAMME J., RAMPART M., CONING R., DECOCK B., VAN OSSELAER N.,
RA WILLEMS J., BILLIAU A.;
RT "The neutrophil-activating proteins interleukin 8 and beta-
RT thromboglobulin: in vitro and in vivo comparison of NH2-terminally
RT processed forms.";
RL EUR. J. IMMUNOL. 20:2113-2118(1990).
RN [17]
RP N-TERMINAL FORMS.
RX MEDLINE; 89231715.
RA VAN DAMME J., VAN BERUMEN J., CONINGS R., DECOCK B., BILLIAU A.;
RT "Purification of granulocyte chemotactic peptide/interleukin-8
RT reveals N-terminal sequence heterogeneity similar to that of
RT beta-thromboglobulin.";
RL EUR. J. BIOCHEM. 181:337-344(1989).
RN [18]
RP SYNTHESIS OF 28-99.
RX MEDLINE; 91175767.
RA CLARK-LEWIS I., MOSE B., WALZ A., BAGGIOLINI M., SCOTT G.J.,
RA AEBERSOLD R.;
RT "Chemical synthesis, purification, and characterization of two
RT inflammatory proteins, neutrophil activating peptide 1
RT (interleukin-8) and neutrophil activating peptide 1
RL BIOCHEMISTRY 30:3128-3135(1991).
RN [19]
RP REVIEW.
RX MEDLINE; 92347562.
RA BAGGIOLINI M., CLARK-LEWIS I.;
RT "Interleukin-8, a chemotactic and inflammatory cytokine.";
RL FERS LETT. 307:97-101(1992).
CC -!- FUNCTION: IL-8 IS A CHEMOTACTIC FACTOR THAT ATTRACTS NEUTROPHILS,
CC BASOPHILS, AND T-CELLS, BUT NOT MONOCYTES. IT IS ALSO INVOLVED IN
CC NEUTROPHIL ACTIVATION. IT IS RELEASED FROM SEVERAL CELL TYPES IN
CC RESPONSE TO AN INFLAMMATORY STIMULUS.
CC -!- SUBUNIT: HOMODIMER.
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
CC C-X-C) (CHEMOKINE CX-C).
CC -----
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CC -----
DR EMBL; Y00787; G34519; -
DR EMBL; M17017; G179580; -
DR EMBL; M26383; G188628; -
DR EMBL; M28130; G186368; -
DR EMBL; D14283; G219916; -
DR PIR; A37034; A37034.
DR PIR; S03975; S03975.
DR PIR; S04216; S04216.
DR PDB; 1IL8; 15-JAN-91.
DR PDB; 2IL8; 15-OCT-92.
DR PDB; 3IL8; 15-OCT-92.
DR PDB; 1ICW; 12-MAR-97.
DR PDB; 1IKL; 15-OCT-95.
DR PDB; 1IKM; 15-OCT-95.
DR PDB; 1ILP; 23-DEC-98.
DR PDB; 1ILO; 23-DEC-98.
DR MIM; 146930; -
DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
DR PFAM; PF00048; 118; 1.
KW CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL; 3D-STRUCTURE.
FT SIGNAL 1 22

Sat Feb 5 15:13:51 2000

US-09-150-813-40.rsp

FT CHAIN 23 99 INTERLEUKIN-8.
 FT PROPEP 23 30 ONE OR MORE OF THESE RESIDUES ARE MISSING
 IN SOME MATURE FORMS OF IL-8.
 FT DISULFID 34 61
 FT DISULFID 36 77
 FT CONFLICT 53 53 R -> L (IN REF. 7).
 FT HELIX 46 48
 FT STRAND 49 55

***Note: remainder of annotations omitted.

Query Match 100.08; Score 99; DB 1; Length 99;
 Best Local Similarity 100.08; Pred. No. 5.80e-10;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 75 ELCLDPKKNWQ 86
 QY 1 ELCLDPKKNWQ 12

RESULT 2
 ID IL8 RABIT STANDARD; PRT; 101 AA.
 AC P19874;
 DT 01-FEB-1991 (REL. 17, CREATED)
 DT 01-DEC-1992 (REL. 24, LAST SEQUENCE UPDATE)
 DT 01-NOV-1995 (REL. 32, LAST ANNOTATION UPDATE)
 DE INTERLEUKIN-8 PRECURSOR (IL-8) (NEUTROPHIL ATTRACTANT/ACTIVATION
 DE PROTEIN-1) (NAP-1) (PERMEABILITY FACTOR 1) (RPF1).
 GN IL8.

OS ORCTOLAGUS CUNICULUS (RABBIT).
 OC EURKYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC LAGOMORPHA; LEPORIDAE; ORICTOLAGUS.
 RN [1]

RP SEQUENCE FROM N.A.
 RC STRAIN-NEW ZEALAND WHITE; TISSUE-SPLEEN;
 RX MEDLINE: 91225489.
 RA YOSHIMURA T., YUKI N.;
 RT "Neutrophil attractant/activation protein-1 and monocyte
 RT chemoattractant protein-1 in rabbit. cDNA cloning and their
 RT expression in spleen cells.";
 RL J. IMMUNOL. 146:3483-3488(1991).
 RN [2]

RP SEQUENCE OF 23-53.
 RC STRAIN-NEW ZEALAND WHITE; TISSUE-PERITONEAL CAVITY;
 RX MEDLINE: 91058518.

RA BEAUBIEN B.C., COLLINS P.D., JOSE P.J., TOTTY N.F., HSUAN J.,
 RA WATERFIELD M.D., WILLIAMS T.J.;

RT "A novel neutrophil chemoattractant generated during an inflammatory
 RT reaction in the rabbit peritoneal cavity in vivo. Purification,
 RT partial amino acid sequence and structural relationship to
 RT interleukin 8.";
 RL BIOCHEM. J. 271:797-801(1990).

CC -!- FUNCTION: IL-8 IS A CHEMOTACTIC FACTOR THAT ATTRACTS NEUTROPHILS,
 CC BASOPHILS, AND T-CELLS, BUT NOT MONOCYTES. IT IS ALSO INVOLVED IN
 CC NEUTROPHIL ACTIVATION. IT IS RELEASED FROM SEVERAL CELL TYPES IN
 CC RESPONSE TO AN INFLAMMATORY STIMULUS.
 CC -!- SUBUNIT: HOMODIMER.
 CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
 CC C-X-C) (CHEMOKINE CXCL).

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CC EMBL: M57439; G165553; -;
 CC PIR: S13052; S13052.
 CC PROSITE: PS00471; SMALL_CYTOKINES_CXC; 1.
 CC PFAM: PF00048; 118; 1.
 CC HSSP: P10145; 11KL.

DR EMBL: M57439; G165553; -;
 DR PIR: S13052; S13052.
 DR PROSITE: PS00471; SMALL_CYTOKINES_CXC; 1.
 DR PFAM: PF00048; 118; 1.
 DR HSSP: P10145; 11KL.

KW CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.
 FT SIGNAL 1 22
 FT CHAIN 23 101 INTERLEUKIN-8.
 FT DISULFID 34 61 BY SIMILARITY.
 FT DISULFID 36 77 BY SIMILARITY.
 FT CONFLICT 50 50 K -> I (IN REF. 2).
 SQ SEQUENCE 101 AA; 11402 MW; CB32CC30 CRC32;

Query Match 96.08; Score 95; DB 1; Length 101;
 Best Local Similarity 91.78; Pred. No. 5.72e-09;
 Matches 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Db 75 ELCLDPKKNWQ 86
 QY 1 ELCLDPKKNWQ 12

RESULT 3
 ID IL8 MACMU STANDARD; PRT; 101 AA.
 AC P51495;
 DT 01-OCT-1996 (REL. 34, CREATED)
 DT 01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)
 DT 01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)
 DE INTERLEUKIN-8 PRECURSOR (IL-8).
 GN IL8.

OS MACACA MULATTA (RHESUS MACAQUE), AND
 OS MACACA NEMESTRINA (PIG-TAILED MACAQUE).
 OC EURKYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC PRIMATES; CATARRHINI; CERCOPITHECIDAE; CERCOPITHECINAE; MACACA.

OC [1]
 RN SEQUENCE FROM N.A.
 RP TISSUE-BLOOD;
 RC MEDLINE: 96003435.

RA VILLINGER F.J., BRAR S.S., MAYNE A.E., CHIKKALA N., ANSARI A.A.;
 RT "Comparative sequence analysis of cytokine genes from human and
 RT nonhuman primates.";
 RL J. IMMUNOL. 155:3946-3954(1995).
 RN [2]

RP SEQUENCE FROM N.A.
 RC SPECIES-M. MULATTA; TISSUE-BLOOD;
 RX MEDLINE: 95355132.

RA MINNERLY J.C., BAGANOFF M.P., DEPPERER C.L., KELLER B.T.,
 RA RAPP S.R., WIDOMSKI D.L., FRETLAND D.J., BOLANOWSKI M.A.;
 RT "Identification and characterization of rhesus macaque
 RT interleukin-8.";
 RL INFLAMMATION 19:313-331(1995).

CC -!- FUNCTION: IL-8 IS A CHEMOTACTIC FACTOR THAT ATTRACTS NEUTROPHILS,
 CC BASOPHILS, AND T-CELLS, BUT NOT MONOCYTES. IT IS ALSO INVOLVED IN
 CC NEUTROPHIL ACTIVATION. IT IS RELEASED FROM SEVERAL CELL TYPES IN
 CC RESPONSE TO AN INFLAMMATORY STIMULUS (BY SIMILARITY).
 CC -!- SUBUNIT: HOMODIMER (BY SIMILARITY).
 CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
 CC C-X-C) (CHEMOKINE CXCL).

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CC EMBL: U19849; G644816; -;
 CC EMBL: U19851; G644820; -;
 CC EMBL: S78555; G1042228; -;
 CC PROSITE: PS00471; SMALL_CYTOKINES_CXC; 1.
 CC PFAM: PF00048; 118; 1.
 CC HSSP: P10145; 11L8.

DR EMBL: U19849; G644816; -;
 DR EMBL: U19851; G644820; -;
 DR EMBL: S78555; G1042228; -;
 DR PROSITE: PS00471; SMALL_CYTOKINES_CXC; 1.
 DR PFAM: PF00048; 118; 1.
 DR HSSP: P10145; 11L8.

DR CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.
 KW SIGNAL 1 22
 FT CHAIN 23 101 BY SIMILARITY.
 FT DISULFID 34 61 INTERLEUKIN-8.
 FT DISULFID 36 77 BY SIMILARITY.
 FT DISULFID 36 77 BY SIMILARITY.

SO SEQUENCE 101 AA; 11320 MW; 77D78AA0 CRC32;

Query Match 92.9%; Score 92; DB 1; Length 101;
Best Local Similarity 91.7%; Pred. No. 3.12e-08;
Matches 11; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Db 75 ELCLDPKPEWVQ 86

QY 1 ELCLDPKPEWVQ 12

RESULT 4

ID IL8_CERTO STANDARD; PRT; 101 AA.

AC P46653;

DT 01-NOV-1995 (REL. 32, CREATED)

DT 01-NOV-1995 (REL. 32, LAST SEQUENCE UPDATE)

DT 01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)

DE INTERLEUKIN-8 PRECURSOR (IL-8).

GN IL8.

OS CERCOCEBUS TORQUATUS ATYS (RED-CROWNED MANGABEY) (SOOTY MANGABEY).

OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;

OC PRIMATES; CATARRHINI; CERCOPITHECIDAE; CERCOPITHECINAE; CERCOCERUS.

RN [1]

RP SEQUENCE FROM N.A.

RC TISSUE-BLOOD;

RX MEDLINE; 96003435.

RA VILLINGER F.J., BRAR S.S., MAYNE A.E., CHIKKALA N., ANSARI A.A.;

RT "Comparative sequence analysis of cytokine genes from human and

nonhuman primates";

RL J. IMMUNOL. 155:3946-3954(1995).

CC -!- FUNCTION: IL-8 IS A CHEMOTACTIC FACTOR THAT ATTRACTS NEUTROPHILS,

BASOPHILS, AND T-CELLS, BUT NOT MONOCYTES. IT IS ALSO INVOLVED IN

NEUTROPHIL ACTIVATION. IT IS RELEASED FROM SEVERAL CELL TYPES IN

RESPONSE TO AN INFLAMMATORY STIMULUS (BY SIMILARITY).

CC -!- SUBUNIT: HOMODIMER (BY SIMILARITY).

CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE

C-X-C) (CHEMOKINE CXCL).

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CC EMBL; U19839; G644796;

DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.

DR PFAM; PF00048; IL8; 1.

DR HSSP; P10145; IL18.

KW CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.

FT SIGNAL 1 22 BY SIMILARITY.

FT CHAIN 23 101 INTERLEUKIN-8.

FT DISULFID 34 61 BY SIMILARITY.

FT DISULFID 36 77 BY SIMILARITY.

FT SEQUENCE 101 AA; 11309 MW; 47F1BF00 CRC32;

Query Match

Best Local Similarity 92.9%; Score 92; DB 1; Length 101;

Matches 11; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Db 75 ELCLDPKPEWVQ 86

QY 1 ELCLDPKPEWVQ 12

RESULT 5

ID IL8_SHEEP

AC P36925;

DT 01-JUN-1994 (REL. 29, CREATED)

DT 01-JUN-1994 (REL. 29, LAST SEQUENCE UPDATE)

DT 01-NOV-1995 (REL. 32, LAST ANNOTATION UPDATE)

DE INTERLEUKIN-8 PRECURSOR (IL-8).

GN IL8.

OS OVIS ARIES (SHEEP).

OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;

OC ARTIODACTYLA; RUMINANTIA; PECORA; BOVIDAE; CAPRINAE; OVIS.

RN [1]

RP SEQUENCE FROM N.A.

RX MEDLINE; 95121931.

RA LEGASTELOIS I., GREENLAND T., ARNAUD P., MORNEX J.F., CORDIER G.;

RT "Sequencing of the ovine interleukin-8-encoding cDNA using the

polymerase chain reaction.";

RL GENE 150:367-369(1994).

RN [2]

RP SEQUENCE FROM N.A.

RX MEDLINE; 95137691.

RA SEOW H.F., YOSHIMURA T., WOOD P.R., COLDITZ I.G.;

RT "Cloning, sequencing, expression and inflammatory activity in skin of

ovine interleukin-8.";

RL IMMUNOL. CELL BIOL. 72:398-405(1994).

CC -!- FUNCTION: IL-8 IS A CHEMOTACTIC FACTOR THAT ATTRACTS NEUTROPHILS,

BASOPHILS, AND T-CELLS, BUT NOT MONOCYTES. IT IS ALSO INVOLVED IN

NEUTROPHIL ACTIVATION. IT IS RELEASED FROM SEVERAL CELL TYPES IN

RESPONSE TO AN INFLAMMATORY STIMULUS.

CC -!- SUBUNIT: HOMODIMER.

CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE

C-X-C) (CHEMOKINE CXCL).

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CC EMBL; X78306; G463254;

DR EMBL; S74436; G786591;

DR FIR; S42496; S42496.

DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.

DR PFAM; PF00048; IL8; 1.

DR HSSP; P10145; IL18.

KW CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.

FT SIGNAL 1 22 BY SIMILARITY.

FT CHAIN 23 101 INTERLEUKIN-8.

FT DISULFID 34 61 BY SIMILARITY.

FT DISULFID 36 77 BY SIMILARITY.

FT SEQUENCE 101 AA; 11292 MW; 5A574527 CRC32;

Query Match

Best Local Similarity 88.9%; Score 88; DB 1; Length 101;

Matches 10; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Db 75 EYCLDPKPEWVQ 86

QY 1 ELCLDPKPEWVQ 12

RESULT 6

ID IL8_CANFA

AC P41324;

DT 01-FEB-1995 (REL. 31, CREATED)

DT 01-FEB-1995 (REL. 31, LAST SEQUENCE UPDATE)

DT 15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)

DE INTERLEUKIN-8 PRECURSOR (IL-8).

GN IL8.

OS CANIS FAMILIARIS (DOG).

OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;

OC CARNIVORA; FISSIPEDIA; CANIDAE; CANIS.

RN [1]

RP SEQUENCE FROM N.A.

RX MEDLINE; 94010328.

RA ISHIKAWA J., SUZUKI S., HOTTA K., HIROTA Y., MIZUNO S., SUZUKI K.;

RT "Cloning of a canine gene homologous to the human

interleukin-8-encoding gene.";

RL GENE 131:305-306(1993).
 RN [2]
 RP SEQUENCE FROM N.A.
 RC TISSUE-LYMPH NODE;
 RX MEDLINE: 95127913.
 RA MATSUMOTO Y., MOHAMED A., ONODERA T., KATO H., OHASHI T.,
 RA GOITSUKA R., TSUJIMOTO H., HASEGAWA A., FURUSAWA S., YOSHIHARA K.,
 RA ISHIKAWA J., HOTTA K., SUZUKI K., HIROTA Y.,
 RT "Molecular cloning and expression of canine interleukin 8 cDNA."
 RL CYTOKINE 6:455-461(1994).
 RN [3]
 RP SEQUENCE FROM N.A.
 RC STRAIN-MONGREL; TISSUE-JUGULAR VEIN;
 RX MEDLINE: 95114148.
 RA KUKIELKA G.L., SMITH W.C., LAROSA G.J., MANNING A.M.,
 RA MENDOZA L.H., DALY T.J., HUGHES B.J., YOKER K.A., HAWKINS H.K.,
 RA MICHAEL L.H., ROT A., ENTMAN M.L.,
 RT "Interleukin-8 gene induction in the myocardium after ischemia and
 RT reperfusion in vivo."
 RL J. CLIN. INVEST. 95:89-103(1994).
 RN [4]
 RP SEQUENCE FROM N.A.
 RC STRAIN-BEAGLE;
 RX MEDLINE: 97230298.
 RA STRAUBINGER R.K., STRAUBINGER A.F., HARTER L., JACOBSON R.H.,
 RA CHANG Y.-F., SUMMERS B.A., ERB H.N., APPEL M.J.;
 RT "Regulation of interleukin-8 in synovial membranes of dogs
 RT experimentally infected with ticks."
 RL INFECT. IMMUN. 65:1273-1285(1997).
 CC [1- FUNCTION: IL-8 IS A CHEMOTACTIC FACTOR THAT ATTRACTS NEUTROPHILS,
 CC BASOPHILS, AND T-CELLS, BUT NOT MONOCYTES. IT IS ALSO INVOLVED IN
 CC NEUTROPHIL ACTIVATION. IT IS RELEASED FROM SEVERAL CELL TYPES IN
 CC RESPONSE TO AN INFLAMMATORY STIMULUS.
 CC [1- SUBUNIT: HOMODIMER.
 CC [1- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
 CC C-X-C) (CHEMOKINE CXCL).
 CC -----
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 CC -----
 CC EMBL; D28772; G517100; -;
 DR EMBL; D14285; G475152; -;
 DR EMBL; U10308; G607814; -;
 DR EMBL; AF048717; G2935472; -;
 DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
 DR PFAM; PF00048; i18; 1.
 DR HSP; P10145; i1KL; 1.
 DR CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.
 KW SIGNAL 1 22
 FT CHAIN 23 101
 FT DISULFID 34 61
 FT DISULFID 36 77
 FT BY SIMILARITY.
 FT BY SIMILARITY.
 FT BY SIMILARITY.
 SQ SEQUENCE 101 AA; 11280 MW; 7C49D62D CRC32;

 Query Match 88.9%; Score 88; DB 1; Length 101;
 Best Local Similarity 83.3%; Pred. No. 2.90e-07;
 Matches 10; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

 Db 75 EVCLDPKKNVQ 86
 QY 1 ELCLDPKKNVQ 12

 RESULT 7
 ID IL8_PIG STANDARD; PRT; 103 AA.
 AC P26894; P22951;
 DT 01-AUG-1991 (REL. 19, CREATED)

DT 01-AUG-1992 (REL. 23, LAST SEQUENCE UPDATE)
 DT 01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)
 DE INTERLEUKIN-8 PRECURSOR (IL-8) (ALVEOLAR MACROPHAGE CHEMOTACTIC FACTOR
 DE 1) (AMCF-I).
 GN IL8.
 OS SUS SCROFA (PIG).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC ARTIODACTYLA; SUIFORMES; SUINA; SUIDAE; SUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE: 94103307.
 RA LIN G., PEARSON A.E., SCAMURRA R.W., ZHOU Y., BAARSCH M.J.,
 RA WEISS D.J., MURTAUGH M.P.;
 RT "Regulation of interleukin-8 expression in porcine alveolar
 RT macrophages by bacterial lipopolysaccharide."
 RL J. BIOL. CHEM. 269:77-85(1994).
 RN [2]
 RP SEQUENCE FROM N.A.
 RA SANJANWALA M.;
 RL SUBMITTED (JUL-1991) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [3]
 RP SEQUENCE FROM N.A., AND SEQUENCE OF 26-45.
 RC TISSUE-LUNG;
 RX MEDLINE: 93041741.
 RA GOODMAN R.B., FOSTER D.C., MATHEWS S.L., OSBORN S.G., KULJPER J.L.,
 RA FORSTROM J.W., MARTIN T.R.;
 RT "Molecular cloning of porcine alveolar macrophage-derived neutrophil
 RT chemotactic factors I and II; identification of porcine IL-8 and
 RT another intercrine-alpha protein."
 RL BIOCHEMISTRY 31:10483-10490(1992).
 RN [4]
 RP REVISION TO 23.
 RA GOODMAN R.B.;
 RL SUBMITTED (MAR-1996) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [5]
 RP SEQUENCE OF 26-45.
 RC STRAIN-YORKSHIRE;
 RX MEDLINE: 91217086.
 RA GOODMAN R.B., FORSTROM J.W., OSBORN S.G., CHI E.Y., MARTIN T.R.;
 RT "Identification of two neutrophil chemotactic peptides produced by
 RT porcine alveolar macrophages."
 RL J. BIOL. CHEM. 266:8455-8463(1991).
 CC [1- FUNCTION: IL-8 IS A CHEMOTACTIC FACTOR THAT ATTRACTS NEUTROPHILS,
 CC BASOPHILS, AND T-CELLS, BUT NOT MONOCYTES. IT IS ALSO INVOLVED IN
 CC NEUTROPHIL ACTIVATION. IT IS RELEASED FROM SEVERAL CELL TYPES IN
 CC RESPONSE TO AN INFLAMMATORY STIMULUS.
 CC [1- SUBUNIT: HOMODIMER.
 CC [1- TISSUE SPECIFICITY: ALVEOLAR MACROPHAGES.
 CC [1- INDUCTION: BY LIPOPOLYSACCHARIDE.
 CC [1- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
 CC C-X-C) (CHEMOKINE CXCL).
 CC -----
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 CC or send an email to license@isb-sib.ch).
 CC -----
 CC EMBL; M86923; G164521; -;
 DR EMBL; X61151; G516197; -;
 DR EMBL; M93367; G1235612; -;
 DR PIR; A44253; A44253.
 DR PIR; A39819; A39819.
 DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
 DR PFAM; PF00048; i18; 1.
 DR HSP; P10145; i1KL; 1.
 DR CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.
 KW SIGNAL 1 25
 FT CHAIN 26 103
 FT DISULFID 34 61
 FT DISULFID 36 77
 FT BY SIMILARITY.
 FT BY SIMILARITY.

```

DE INTERLEUKIN-8 PRECURSOR (IL-8) (NEUTROPHIL ATTRACTANT PROTEIN 1)
DE (NAP-1).
GN IL8.
OS CAVIA PORCELLUS (GUINEA PIG).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC RODENTIA; HYSTRICOGNATHI; CAVIIDA; CAVIA.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=SPLEEN;
RX MEDLINE: 94065176.
RA YOSHIMURA T., JOHNSON D.G.;
RT "CDNA cloning and expression of guinea pig neutrophil attractant
RT protein-1 (NAP-1). NAP-1 is highly conserved in guinea pig.";
RL J. IMMUNOL. 151:6225-6236(1993).
CC -!- FUNCTION: IL-8 IS A CHEMOTACTIC FACTOR THAT ATTRACTS NEUTROPHILS,
CC BASOPHILS, AND T-CELLS, BUT NOT MONOCYTES. IT IS ALSO INVOLVED IN
CC NEUTROPHIL ACTIVATION. IT IS RELEASED FROM SEVERAL CELL TYPES IN
CC RESPONSE TO AN INFLAMMATORY STIMULUS (BY SIMILARITY).
CC -!- SUBUNIT: HOMODIMER (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
CC C-X-C) (CHEMOKINE CXCL).
CC -----
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CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL: L04986; G459765; -
DR PROSITE: PS00471; SMALL_CYTOKINES_CXC; 1.
DR PFAM: PF00048; I18; 1.
DR HSP: P10145; I1KL.
KW CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.
FT SIGNAL 1 22 BY SIMILARITY.
FT CHAIN 23 101 INTERLEUKIN-8.
FT DISULFID 34 61 BY SIMILARITY.
FT DISULFID 36 77 BY SIMILARITY.
SQ SEQUENCE 101 AA; 11414 MW; E13FB521 CRC32;

Query Match 85.9%; Score 85; DB 1; Length 101;
Best Local Similarity 75.0%; Pred. No. 1.51e-06;
Matches 9; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 75 EVCLDPKPKWVQ 86
:|||||:
QY 1 ELCLDPKPNWVQ 12

RESULT 10
ID MCPA_BOVIN STANDARD; PRT; 99 AA.
AC P28291;
DT 01-DEC-1992 (REL. 24, CREATED)
DT 01-DEC-1992 (REL. 24, LAST SEQUENCE UPDATE)
DT 01-NOV-1995 (REL. 32, LAST ANNOTATION UPDATE)
DE MONOCYTE CHEMOTACTIC PROTEIN 1A PRECURSOR (MCP-1A) (ACIDIC
DE SEMINAL FLUID PROTEIN).
OS BOS TAURUS (BOVINE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC ARTIODACTYLA; RUMINANTIA; PECORA; BOVIDAE; BOVINAE; BOS.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=SEMINAL PLASMA;
RX MEDLINE: 92096117.
RA WEMPE F., HENSCHEN A., SCHEIT K.H.;
RT "Gene expression and cDNA cloning identified a major basic protein
RT constituent of bovine seminal plasma as bovine
RT monocyte-chemoattractant protein-1 (MCP-1).";
RL DNA CELL BIOL. 10:671-679(1991).
RN [2]
RP SEQUENCE FROM N.A.
RC TISSUE=SEMINAL PLASMA;

```

[2] SEQUENCE FROM N.A., AND SEQUENCE OF 17-98.
RP TISSUE-FETAL;
RX MEDLINE; 96235049.
RA UGUCCIONI M., LOETSCHER P., FORSSMANN U., DEWALD B., LI H., LIMA S.H.,
LI Y., KREIDER B., GAROTTA G., THELEN M., BAGGIOLINI M.;
RA "Monocyte chemotactic protein 4 (MCP-4), a novel structural and
RT functional analogue of MCP-3 and eotaxin.";
RL J. EXP. MED. 183:2379-2384(1996).
[3]
RN SEQUENCE FROM N.A., AND SEQUENCE OF 22-33.
RP TISSUE-FETAL;
RC MEDLINE; 97341179.
RA BERKHOUT T.A., SARAU H.M., MOORES K., WHITE J.R., ELSHOUBAGY N.,
RA APPELBAUM E., REAPE T.J., BRAWER M., MAKWANA J., FOLEY J.J.,
RA SCHMIDT D.B., INBURGIA C., MACNULTY D., MATTHEWS J., O'DONNELL K.,
RA O'SHANNESKY D., SCOTT M., GROOT P.H.E., MACPHEE C.;
RT "Cloning, in vitro expression, and functional characterization of a
RT novel human CC chemokine of the monocyte chemotactic protein (MCP)
RT family (MCP-4) that binds and signals through the CC chemokine
RT receptor 2B.";
RL J. BIOL. CHEM. 272:16404-16413(1997).
[4]
RN SEQUENCE FROM N.A.
RP DANTE M., GIBSON A.;
RL SUBMITTED (AUG-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
[5]
RN SEQUENCE FROM N.A.
RP TISSUE-LUNG;
RA POWER C.A., MEYER A., RISON S.C.G., GUYE-COULIN F., WELLS T.N.C.;
RL SUBMITTED (DEC-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
CC -1- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES, LYMPHOCYTES,
CC BASOPHILS AND EOSINOPHILS, BUT NOT NEUTROPHILS. SIGNALS THROUGH
CC CCR2B AND CCR3 RECEPTORS. PLAYS A ROLE IN THE ACCUMULATION OF
CC LEUKOCYTES AT BOTH SIDES OF ALLERGIC AND NONALLERGIC INFLAMMATION.
CC MAY BE INVOLVED IN THE RECRUITMENT OF MONOCYTES INTO THE ARTERIAL
CC WALL DURING THE DISEASE PROCESS OF ARTEROSCLEROSIS. MAY PLAY A
CC ROLE IN THE MONOCYTE ATTRACTION IN TISSUES CHRONICALLY EXPOSED TO
CC EXOGENOUS PATHOGENS.
CC -1- MASS SPECTROMETRY: MW=9314; MW_ERR=30; METHOD-MALDI; RANGE=17-98.
CC -1- MASS SPECTROMETRY: MW=8760; MW_ERR=30; METHOD-MALDI; RANGE=22-98.
CC -1- MASS SPECTROMETRY: MW=8573; MW_ERR=30; METHOD-MALDI; RANGE=24-98.
CC -1- INDUCTION: BY INTERLEUKIN-1 AND TNF-ALPHA.
CC -1- TISSUE SPECIFICITY: WIDELY EXPRESSED. FOUND IN SMALL INTESTINE,
CC THYMUS, COLON, LUNG, TRACHEA, STOMACH AND LYMPH NODE. LOW LEVELS,
CC SEEN IN THE PULMONARY ARTERY SMOOTH MUSCLE CELLS.
CC -1- THIS PROTEIN CAN BIND HEPARIN.
CC -1- PTM: ONE MAJOR ISOFORM MCP-4, AND TWO MINOR ISOFORMS (LA)MCP-4 AND
CC (FNPG)MCP-4 ARE PRODUCED BY DIFFERENTIAL SIGNAL CLEAVAGE.
CC (LA)MCP-4 IS ABOUT 30 FOLD LESS ACTIVE THAN MCP-4.
CC -1- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
CC C-C) (CHEMOKINE CC).

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CC EMBL; U046767; G1732123; -.
DR EMBL; AC002482; G2340091; -.
DR EMBL; X98306; E248571; -.
CC MIM; 601391; -.
DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
DR PFM; PF00048; i18; 1.
DR HSP; P13500; I00L.
DR CYTOKINE; CHEMOTAXIS; SIGNAL; GLYCOPROTEIN; INFLAMMATORY RESPONSE.
KW SIGNAL 1 23
FT CHAIN 24 98
FT MOD_RES 24 24
FT DISULFID 34 58
FT MONOCYTE CHEMOTACTIC PROTEIN 4.
FT PYRROLIDONE CARBOXYLIC ACID.
FT BY SIMILARITY.

FT DISULFID 35 74 BY SIMILARITY.
 FT CARBOHYD 29 29 POTENTIAL.
 SQ SEQUENCE 98 AA; 10986 MW; DF52F6EC CRC32;

Query Match

Best Local Similarity 75.0%; DB 1; Length 98;
 Matches 9; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 72 EICADPKKVVQ 83

QY 1 ELCLDPKKNVQ 12

RESULT 12

ID MCP1_HUMAN STANDARD; PRT; 99 AA.
 AC P13500;
 DT 01-JAN-1990 (REL. 13, CREATED)
 DT 01-JAN-1990 (REL. 13, LAST SEQUENCE UPDATE)
 DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
 DE MONOCYTE CHEMOTACTIC PROTEIN 1 PRECURSOR (MCP-1) (MONOCYTE CHEMOTACTIC
 DE AND ACTIVATING FACTOR) (MCAF) (MONOCYTE SECRETORY PROTEIN JE
 DE (MONOCYTE CHEMOATTRACTANT PROTEIN 1) (HCII) (SMALL INDUCIBLE CYTOKINE
 DE A2).
 GN SCYA2 OR MCP1.
 OS HOMO SAPIENS (HUMAN).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC PRIMATES; CATARRHINI; HOMINIDAE; HOMO.
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE: 89165862.
 RA FURUTANI Y., NOMURA H., NOTAKE M., OYAMADA Y., FUKUI T., YAMADA M.,
 RA LARSEN C.G., OPPENHEIM J.J., MATSUSHIMA K.;
 RT "Cloning and sequencing of the cDNA for human monocyte chemotactic
 RT and activating factor (MCAF).";
 RL BIOCHEM. BIOPHYS. RES. COMMUN. 159:249-255(1989).
 RN [2]
 RP SEQUENCE FROM N.A.
 RX MEDLINE: 90097880.
 RA ROLLINS B.J., STIER P., ERNST T., WONG G.G.;
 RT "The human homolog of the JE gene encodes a monocyte secretory
 RT protein.";
 RL MOL. CELL. BIOL. 9:4687-4695(1989).
 RN [3]
 RP SEQUENCE FROM N.A.
 RX MEDLINE: 89153605.
 RA YOSHIMURA T., YUKI N., MOORE S.K., APPELLA E., LERMAN M.I.,
 RA LEONARD E.J.;
 RT "Human monocyte chemoattractant protein-1 (MCP-1). Full-length cDNA
 RT cloning, expression in mitogen-stimulated blood mononuclear
 RT leukocytes, and sequence similarity to mouse competence gene JE.";
 RL FEBS LETT. 244:487-493(1989).
 RN [4]
 RP SEQUENCE FROM N.A.
 RX MEDLINE: 90290466.
 RA SHI Y.J., LI Y.S., KOLATTUKUDY P.E.;
 RT "Structure of human monocyte chemotactic protein gene and its
 RT regulation by TPA.";
 RL BIOCHEM. BIOPHYS. RES. COMMUN. 169:346-351(1990).
 RN [5]
 RP SEQUENCE FROM N.A.
 RX MEDLINE: 91207938.
 RA CHANG H.C., HSU F., FREEMAN G.J., GRIFFIN J.D., REINHARTZ E.L.;
 RT "Cloning and expression of a gamma-interferon-inducible gene in
 RT monocytes: a new member of a cytokine gene family.";
 RL INT. IMMUNOL. 1:388-399(1989).
 RN [6]
 RP SEQUENCE FROM N.A.
 RX MEDLINE: 94150476.
 RA LI Y.S., SHI Y.J., WRIGHT J.G., VALENTE A.J., CORNHILL J.F.,
 RA KOLATTUKUDY P.E.;
 RT "The expression of monocyte chemotactic protein (MCP-1) in human
 RT vascular endothelium in vitro and in vivo.";
 RL MOL. CELL. BIOL. 12:61-68(1993).

RN [7]
 RP SEQUENCE FROM N.A.
 RX MEDLINE: 92095166.
 RA YOSHIMURA T., LEONARD E.J.;
 RT "Human monocyte chemoattractant protein-1 (MCP-1).";
 RL ADV. EXP. MED. BIOL. 305:47-56(1991).
 RN [8]
 RP SEQUENCE OF 24-99.
 RX MEDLINE: 89184525.
 RA ROBINSON E.A., YOSHIMURA T., LEONARD E.J., TANAKA S., GRIFFIN P.R.,
 RA SHABANOWITZ J., HUNT D.F., APPELLA E.;
 RT "Complete amino acid sequence of a human monocyte chemoattractant, a
 RT putative mediator of cellular immune reactions.";
 RL PROC. NATL. ACAD. SCI. U.S.A. 86:1850-1854(1989).
 RN [9]
 RP SEQUENCE OF 29-53 AND 82-92.
 RX MEDLINE: 90211336.
 RA DECOCK B., CONINGS R., LENAERTS J.-P., BILIAU A., VAN DAMME J.;
 RT "Identification of the monocyte chemotactic protein from human
 RT osteosarcoma cells and monocytes: detection of a novel N-terminally
 RT processed form.";
 RL BIOCHEM. BIOPHYS. RES. COMMUN. 167:904-909(1990).
 RN [10]
 RP 3D-STRUCTURE MODELLING.
 RX MEDLINE: 91312872.
 RA GRONENBORN A.M., CLORE G.M.;
 RT "Modeling the three-dimensional structure of the monocyte chemo-
 RT attractant and activating protein MCAF/MCP-1 on the basis of the
 RT solution structure of interleukin-8.";
 RL PROTEIN ENG. 4:263-269(1991).
 RN [11]
 RP X-RAY CRYSTALLOGRAPHY (1.85 ANGSTROMS).
 RX MEDLINE: 97143315.
 RA LUBKOWSKI J., BUJACZ G., DOMAILLE P.J., HANDEL T.M., WLODAWER A.;
 RT "The structure of MCP-1 in two crystal forms provides a rare example
 RT of variable quaternary interactions.";
 RL NAT. STRUCT. BIOL. 4:64-69(1997).
 RN [12]
 RP STRUCTURE BY NMR.
 RX MEDLINE: 96234959.
 RA HANDEL T.M., DOMAILLE P.J.;
 RT "Heteronuclear (1H, 13C, 15N) NMR assignments and solution structure
 RT of the monocyte chemoattractant protein-1 (MCP-1) dimer.";
 RL BIOCHEMISTRY 35:6569-6584(1996).
 RN [13]
 RP EFFECT OF DELETION OF N-TERMINAL RESIDUES.
 RX MEDLINE: 96195223.
 RA WEBER M., UGUCCIONI M., BAGGIOLINI M., CLARK-LEWIS I., DAHINDEN C.A.;
 RT "Deletion of the NH2-terminal residue converts monocyte chemotactic
 RT protein 1 from an activator of basophil mediator release to an
 RT eosinophil chemoattractant.";
 RL J. EXP. MED. 183:681-685(1996).
 RN [14]
 RP MUTAGENESIS.
 RX MEDLINE: 94253189.
 RA ZHANG Y.J., RUTLEDGE B.J., ROLLINS B.J.;
 RT "Structure/activity analysis of human monocyte chemoattractant
 RT protein-1 (MCP-1) by mutagenesis. Identification of a mutated protein
 RT that inhibits MCP-1-mediated monocyte chemotaxis.";
 RL J. BIOL. CHEM. 269:15918-15924(1994).
 RN [15]
 RP SUBUNIT.
 RX MEDLINE: 97053697.
 RA KIM K.-S., RAJATHANAM K., CLARK-LEWIS I., SYKES B.D.;
 RT "Structural characterization of a monomeric chemokine: monocyte
 RT chemoattractant protein-3.";
 RL FEBS LETT. 395:277-282(1996).
 CC -!- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES AND BASOPHILS
 CC BUT NOT NEUTROPHILS OR EOSINOPHILS. AUGMENTS MONOCYTE ANTI-TUMOR
 CC ACTIVITY. HAS BEEN IMPLICATED IN THE PATHOGENESIS OF DISEASES
 CC CHARACTERIZED BY MONOCYTIC INFILTRATES, LIKE PSORIASIS, RHEUMATOID
 CC ARTHRITIS OR ATHEROSCLEROSIS. MAY BE INVOLVED IN THE RECRUITMENT
 CC OF MONOCYTES INTO THE ARTERIAL WALL DURING THE DISEASE PROCESS OF


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RC STRAIN-CD-1; TISSUE-LUNG;
RX MEDLINE; 95298037.
RA SHI M.M., GODLESKI J.J., PAULASKIS J.D.;
RT "Molecular cloning and posttranscriptional regulation of macrophage
RL inflammatory protein-1 alpha in alveolar macrophages.";
RN BIOCHEMA. BIOPHYS. RES. COMMUN. 211:289-295(1995).
RP [2]
RC SEQUENCE FROM N.A.
RX STRAIN-LONG EVANS; TISSUE-LUNG;
RX MEDLINE; 95238980.
RA SHANLEY T.P., SCHMAL H., FRIEDL H.P., JONES M.L., WARD P.A.;
RT "Role of macrophage inflammatory protein-1 alpha (MIP-1 alpha) in
RL acute lung injury in rats.";
RN J. IMMUNOL. 154:4793-4802(1995).
RP [3]
RC SEQUENCE OF 24-57.
RX STRAIN-WISTAR;
RX MEDLINE; 96183056.
RA NAKAGAWA H., SHIOYA S., TAKANO K., SHIBATA F., KATO H.;
RT "Cytokine-induced neutrophil chemoattractant (CINC)-2 alpha, a novel
RL member of rat GRO/CINC, is a predominant chemokine produced by
RP lipopolysaccharide-stimulated rat macrophages in culture.";
RN BIOCHEMA. BIOPHYS. RES. COMMUN. 220:945-948(1996).
RP [1]
CC -1- FUNCTION: MONOKINE WITH INFLAMMATORY AND CHEMOKINETIC PROPERTIES.
CC HAS CHEMOTACTIC ACTIVITY FOR MONOCYTES, NEUTROPHILS, EOSINOPHILS,
CC BASOPHILS, AND LYMPHOCYTES REQUIRED FOR LONG TNF-ALPHA
CC PRODUCTION. NEUTROPHIL RECRUITMENT AND SUBSEQUENT LUNG INJURY AND
CC MAY FUNCTION AS AN AUTOCRINE MEDIATOR FOR THE MACROPHAGE
CC PRODUCTION OF TNF-ALPHA WHICH IN TURN UP-REGULATES VASCULAR
CC ADHESION MOLECULES REQUIRED FOR NEUTROPHIL INFILX. THIS PROTEIN
CC BINDS HEPARIN.
CC -1- INDUCTION: BY LIPOPOLYSACCHARIDE (LPS).
CC -1- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
CC C-C) (CHEMOKINE CC).
CC -----
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CC -----
DR EMBL; U22414; G790633; -
DR EMBL; U06435; G459150; -
DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
DR PFAM; PF00048; 118; 1.
DR HSSP; P13236; 1HUN.
KW CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL; HEPARIN-BINDING.
FT SIGNAL 1 23
FT CHAIN 24 92 MACROPHAGE INFLAMMATORY PROTEIN 1-ALPHA.
FT DISULFID 34 57 BY SIMILARITY.
FT DISULFID 35 73 BY SIMILARITY.
FT CONFLICT 6 6 A -> T (IN REF. 2).
FT CONFLICT 57 57 C -> W (IN REF. 2 AND 3).
SQ SEQUENCE 92 AA; 10335 MW; F48CF89F CRC32;
Query Match 74.7%; Score 74; DB 1; Length 92;
Best Local Similarity 66.7%; Pred. No. 5.17e-04;
Matches 8; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
Db 71 QICADPKETWVQ 82
QY 1 ELCLDPKKNWVQ 12
::: |||||
RESULT 15
ID MCP1_PIG STANDARD; PRT; 99 AA.
AC P42831;
DT 01-NOV-1995 (REL. 32, CREATED)
DT 01-NOV-1995 (REL. 32, LAST SEQUENCE UPDATE)
DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
DE MONOCYTE CHEMOTACTIC PROTEIN 1 PRECURSOR (MCP-1).

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GN SCVA2.
OS SUS SCROFA (PIG).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC ARTIODACTYLA; SUIFORMES; SUINA; SUIDAE; SUS.
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE; 94183284.
RA HOSANG K., KNOKE I., KLAUDINY J., WEMPE F., WUTTKER W., SCHEIT K.H.;
RT "Porcine luteal cells express monocyte chemoattractant protein-1
RL (MCP-1): analysis by polymerase chain reaction and cDNA cloning.";
RN BIOCHEMA. BIOPHYS. RES. COMMUN. 199:962-968(1994).
RP [2]
RP SEQUENCE FROM N.A.
RC TISSUE-BRAIN;
RL ZACH O.R.F.;
RL SUBMITTED (JUL-1994) TO EMBL/GENBANK/DBJ DATA BANKS.
CC -1- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES, BUT NOT
CC NEUTROPHILS.
CC -1- SUBUNIT: MONOMER OR HOMODIMER; IN EQUILIBRIUM (BY SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
CC C-C) (CHEMOKINE CC).
CC -----
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CC -----
DR EMBL; Z48479; G683717; -
DR EMBL; X79416; G872313; -
DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
DR PFAM; PF00048; 118; 1.
DR HSSP; P13500; 1DON.
KW CYTOKINE; CHEMOTAXIS; SIGNAL; INFLAMMATORY RESPONSE.
FT SIGNAL 1 23 BY SIMILARITY.
FT CHAIN 24 99 MONOCYTE CHEMOTACTIC PROTEIN 1.
FT MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID (BY
FT SIMILARITY).
FT DISULFID 34 59 BY SIMILARITY.
FT DISULFID 35 75 BY SIMILARITY.
SQ SEQUENCE 99 AA; 10976 MW; ECG3AFB4 CRC32;
Query Match 74.7%; Score 74; DB 1; Length 99;
Best Local Similarity 58.3%; Pred. No. 5.17e-04;
Matches 7; Conservative 4; Mismatches 1; Indels 0; Gaps 0;
Db 73 EICAEPKKQWVQ 84
QY 1 ELCLDPKKNWVQ 12
::: |||||
Search completed: Fri Feb 4 17:09:51 2000
Job time : 7 secs.

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MPSrch_pp protein - protein database search, using Smith-Waterman algorithm

Run on: Fri Feb 4 17:08:49 2000; MasPar time 3.58 Seconds
134.457 Million cell updates/sec

Tabular output not generated.

Title: >US-09-150-813-40
Description: (1-12) from US09150813.ppe
Sequence: 1 ELCLDPKENWQ 12

Scoring table: PAM 150
Gap 15

Searched: 122810 seqs, 40068593 residues

Post-processing: Minimum Match 0%
Listing first 45 summaries

Database: pir60
1:pir1 2:pir2 3:pir3 4:pir4

Statistics: Mean 25.485; Variance 37.640; scale 0.677

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match | Length | ID | Description | Pred. No. |
|------------|-------|-------------|--------|----|------------------------------|-----------|
| 1 | 99 | 100.0 | 99 | 2 | A37034 interleukin-8 precurs | 1.41e-08 |
| 2 | 95 | 96.0 | 101 | 2 | I46871 interleukin-8 - rabbi | 1.10e-07 |
| 3 | 88 | 88.9 | 95 | 2 | JN0841 interleukin-8 - dog | 3.72e-06 |
| 4 | 88 | 88.9 | 101 | 2 | I46997 interleukin-8 - sheep | 3.72e-06 |
| 5 | 88 | 88.9 | 101 | 2 | S42496 interleukin 8 - sheep | 3.72e-06 |
| 6 | 88 | 88.9 | 103 | 2 | A44253 alveolar macrophage c | 3.72e-06 |
| 7 | 88 | 88.9 | 103 | 2 | A53096 interleukin-8 precurs | 3.72e-06 |
| 8 | 85 | 85.9 | 101 | 2 | I48148 Neutrophil attractant | 1.63e-05 |
| 9 | 81 | 81.8 | 99 | 2 | JC2336 monocyte chemoattract | 1.14e-04 |
| 10 | 81 | 81.8 | 99 | 2 | A39296 monocyte chemoattract | 1.14e-04 |
| 11 | 75 | 75.8 | 99 | 2 | A60299 monocyte chemoattract | 1.96e-03 |
| 12 | 74 | 74.7 | 92 | 2 | I52322 macrophage inflammato | 3.12e-03 |
| 13 | 74 | 74.7 | 99 | 2 | JC2136 monocyte chemoattract | 3.12e-03 |
| 14 | 72 | 72.7 | 103 | 2 | I50417 RSV-induced protein - | 7.83e-03 |
| 15 | 72 | 72.7 | 103 | 2 | A26736 transformation-induce | 7.83e-03 |
| 16 | 70 | 70.7 | 148 | 2 | A30209 PGF-inducible JE gly | 1.94e-02 |
| 17 | 69 | 69.7 | 99 | 2 | JC5295 monocyte chemoattract | 3.05e-02 |
| 18 | 69 | 69.7 | 120 | 2 | JE0177 lymphocyte and monocy | 3.05e-02 |
| 19 | 69 | 69.7 | 125 | 2 | I46857 monocyte chemoattract | 3.05e-02 |
| 20 | 68 | 68.7 | 97 | 2 | JC4912 eotaxin precursor - h | 4.77e-02 |
| 21 | 68 | 68.7 | 109 | 2 | A54678 monocyte chemoattract | 4.77e-02 |
| 22 | 67 | 67.7 | 92 | 2 | A32393 macrophage inflammato | 7.43e-02 |
| 23 | 67 | 67.7 | 99 | 2 | JC2417 monocyte chemoattract | 7.43e-02 |

| | | | | | | | |
|----|----|------|-----|---|--------|-----------------------|----------|
| 24 | 67 | 67.7 | 120 | 2 | I48147 | monocyte chemoattract | 7.43e-02 |
| 25 | 66 | 66.7 | 50 | 2 | C60407 | monocyte adherence-in | 1.15e-01 |
| 26 | 66 | 66.7 | 89 | 2 | A53497 | pre-B-cell growth-sti | 1.15e-01 |
| 27 | 66 | 66.7 | 89 | 2 | I53416 | interleukin-8 homolog | 1.15e-01 |
| 28 | 66 | 66.7 | 92 | 2 | A30574 | macrophage inflammato | 1.15e-01 |
| 29 | 66 | 66.7 | 92 | 2 | A31767 | macrophage inflammato | 1.15e-01 |
| 30 | 66 | 66.7 | 93 | 2 | I81182 | cytokine - mouse | 1.15e-01 |
| 31 | 66 | 66.7 | 93 | 2 | G01540 | cytokine SDF-1-beta - | 1.15e-01 |
| 32 | 66 | 66.7 | 93 | 2 | B35673 | LD78-beta protein pre | 1.15e-01 |
| 33 | 65 | 65.7 | 96 | 2 | I48099 | eotaxin precursor - g | 1.79e-01 |
| 34 | 65 | 65.7 | 96 | 2 | JG2478 | eotaxin precursor - r | 1.79e-01 |
| 35 | 65 | 65.7 | 148 | 2 | S07723 | immune activation gen | 1.79e-01 |
| 36 | 63 | 63.6 | 92 | 2 | I46730 | 1-aminocyclopropane-1 | 4.24e-01 |
| 37 | 63 | 63.6 | 455 | 2 | S56695 | 1-aminocyclopropane-1 | 4.24e-01 |
| 38 | 63 | 63.6 | 485 | 2 | A35516 | 1-aminocyclopropane-1 | 4.24e-01 |
| 39 | 63 | 63.6 | 485 | 2 | S19677 | 1-aminocyclopropane-1 | 4.24e-01 |
| 40 | 61 | 61.6 | 176 | 2 | F69370 | conserved hypothetica | 9.89e-01 |
| 41 | 60 | 60.6 | 194 | 2 | F64075 | urease accessory prot | 1.50e+00 |
| 42 | 59 | 59.6 | 85 | 2 | C35387 | regulatory protein ko | 2.27e+00 |
| 43 | 58 | 58.6 | 201 | 1 | VANT | plasma retinol-bindin | 3.42e+00 |
| 44 | 58 | 58.6 | 496 | 2 | A47199 | 1-aminocyclopropane-1 | 3.42e+00 |
| 45 | 58 | 58.6 | 770 | 2 | A54444 | DNA-binding protein A | 3.42e+00 |

ALIGNMENTS

RESULT 1
ENTRY A37034 #type complete
TITLE interleukin-8 precursor - human
ALTERNATE_NAMES beta-thromboglobulin-like protein; fibroblast-derived neutrophil-activating factor alpha; lung carcinoma-derived chemotaxin; lymphocyte-derived neutrophil-activating factor; monocyte-derived neutrophil chemotactic factor; monocyte-derived neutrophil-activating factor
ORGANISM #formal_name Homo sapiens #common_name man
DATE 08-Dec-1992 #sequence_revision 08-Dec-1992 #text_change 17-Mar-1999

ACCESSIONS
A37034; J00041; A32791; S37634; P0107; A28598; A27488;
A39960; A60401; A60591; S15827; S04216; A60567; A60847;
S15417; S03975; I55660; I55992; I37902; S67519

REFERENCE
A37034
Mukai, N.; Shiroo, M.; Matsushima, K.
J. Immunol. (1989) 143:1366-1371
Genomic structure of the human monocyte-derived neutrophil chemotactic factor IL-8.
#cross-references MUID:89309826
#accession A37034
#molecule_type DNA
#residues 1-99 #label MUK
#cross-references GB:M28130; NID:g186367; PID:g186368
#note the authors failed to translate the last thirty-six nucleotides of the second exon

REFERENCE
JL0041
Matsushima, K.; Morishita, K.; Yoshimura, T.; Lavu, S.; Kobayashi, Y.; Lew, W.; Appella, E.; Kung, H.F.; Leonard, E.J.; Oppenheim, J. J.
J. Exp. Med. (1988) 167:1883-1893
#journal Molecular cloning of a human monocyte-derived neutrophil chemotactic factor (MDNCF) and the induction of MDNCF mRNA by interleukin 1 and tumor necrosis factor.
#cross-references MUID:88258376
#accession JL0041
#molecule_type mRNA
#residues 1-99 #label MA1
#cross-references EMBL:Y00787; NID:g34518; PID:g34519
#note the sequence shows similarity to several platelet-derived factors, a v-src-induced protein, a growth-regulated gene product (gro), and an IFN-gamma-inducible protein

REFERENCE
A32791
Kowalski, J.; Denhardt, D.T.
Mol. Cell. Biol. (1989) 9:1946-1957
#journal Regulation of the mRNA for monocyte-derived

neutrophil-activating peptide in differentiating HL60 promyelocytes.
#cross-references MUID:89313739
#accession A32791
##molecule_type mRNA
##residues 1-99 #label KOW
#cross-references GB:M26393; NID:g188627; PID:g188628
#journal S37634
#authors King, C.H.; Gordon, G.S.; Konieczkowski, M.; Sedor, J.R.
#submission submitted to the EMBL Data Library, February 1992
#accession S37634
##status preliminary
##molecule_type mRNA
##residues 1-97 #label KIN
#cross-references EMBL:Z11686; NID:g33958; PID:g33959
#journal PLO107
#authors Suzuki, K.; Miyasaka, H.; Ota, H.; Yamakawa, Y.; Tagawa, M.; Kuramoto, A.; Mizuno, S.
#journal J. Exp. Med. (1989) 169:1895-1901
#title Purification and partial primary sequence of a chemotactic protein for polymorphonuclear leukocytes derived from human lung giant cell carcinoma LU65C cells.
#cross-references MUID:89279141
#accession PLO107
##molecule_type protein
##residues 23-32, 'XR', 35, 'X', 37-52, 'L', 54 #label SUZ
#cross-references A28598
#journal Gregory, H.; Young, J.; Schroeder, J.M.; Mrowietz, U.; Christophers, E.
#title Structure determination of a human lymphocyte derived neutrophil activating peptide (LYNAP).
#cross-references MUID:88162914
#accession A28598
##molecule_type protein
##residues 28-99 #label GRE
#journal Walz, A.; Peveri, P.; Aschauer, H.; Baggiolini, M.
#title Biochem. Biophys. Res. Commun. (1987) 149:755-761
#cross-references MUID:88106502
#accession A27488
##molecule_type protein
##residues 28-59 #label WAL
#journal Yoshimura, T.; Matsushima, K.; Tanaka, S.; Robinson, E.A.; Appella, E.; Oppenheim, J.J.; Leonard, E.J.
#title Proc. Natl. Acad. Sci. U.S.A. (1987) 84:9233-9237
#cross-references MUID:88097462
#accession A39960
##molecule_type protein
##residues 28-69 #label YOS
#journal Schroeder, J.M.; Sticherling, M.; Henneicke, H.H.; Preissner, W.C.; Christophers, E.
#title J. Immunol. (1990) 144:2223-2232
#cross-references MUID:90187866
#accession A60401
##molecule_type protein
##residues 23-32 #label SCH
#journal a minor component of this material (15%) includes an additional two amino acids at the amino end
#cross-references MUID:89246368
#accession A60591
#journal Van Damme, J.; Decock, B.; Conings, R.; Lenaerts, J.P.;

Opdenakker, G.; Billiau, A.
Eur. J. Immunol. (1989) 19:1189-1194
#title The chemotactic activity for granulocytes produced by virally infected fibroblasts is identical to monocyte-derived interleukin 8
#cross-references MUID:89338542
#accession A60591
##molecule_type protein
##residues 23-33, 'X', 35, 'X', 37-42 #label VAN
#journal S15827
#authors Nakagawa, H.; Hatakeyama, S.; Ikese, A.; Miyai, H.
#journal FEBS Lett. (1991) 282:412-414
#title Generation of interleukin-8 by plasmin from AVLPK-interleukin-8, the human fibroblast-derived neutrophil chemotactic factor.
#cross-references MUID:91243843
#accession S15827
##molecule_type protein
##residues 23-33, 'X', 35, 'X', 37-47 #label FEB
#journal S04216
#authors van Damme, J.; van Beeumen, J.; Conings, R.; Decock, B.; Billiau, A.
#journal Eur. J. Biochem. (1989) 181:337-344
#title Purification of granulocyte chemotactic peptide/interleukin-8 reveals N-terminal sequence heterogeneity similar to that of beta-thromboglobulin.
#cross-references MUID:89231715
#accession S04216
##molecule_type protein
##residues 21-67 #label VA2
#journal Yoshimura, T.; Robinson, E.A.; Appella, E.; Matsushima, K.; Showalter, S.D.; Skeel, A.; Leonard, E.J.
#title Mol. Immunol. (1989) 26:87-93
#cross-references MUID:89181632
#accession A60567
##molecule_type protein
##residues 21-33, 'X', 35, 'X', 37-47 #label YO2
#journal the forms starting from positions 21, 23, and 28 represented 8%, 47%, and 45%, respectively, of total interleukin-8
#cross-references MUID:88187604
#accession A60847
##molecule_type protein
##residues 28-47 #label VA3
#journal S15417
#authors Car, B.D.; Baggiolini, M.; Walz, A.
#journal Biochem. J. (1991) 275:581-584
#title Formation of neutrophil-activating peptide 2 from platelet-derived connective-tissue-activating peptide III by different tissue proteinases.
#cross-references MUID:91248085
#accession S15417
##status preliminary
##molecule_type protein
##residues 28-99 #label CAR
#journal S03975
#authors Golds, E.E.; Mason, P.; Nyirkos, P.
#journal Biochem. J. (1989) 259:585-588
#title Inflammatory cytokines induce synthesis and secretion of gro protein and a neutrophil chemotactic factor but not beta-2-microglobulin in human synovial cells and fibroblasts.
#cross-references MUID:89246368

```

#accession S03975
#molecule_type protein
##residues 23-46 ##label GOL
REFERENCE
#authors Hotta, K.; Hayashi, K.; Ishikawa, J.; Tagawa, M.; Hashimoto, K.; Mizuno, S.; Suzuki, K.
#journal Immunol. Lett. (1990) 24:165-170
#title Coding region structure of interleukin-8 gene of human lung
...
Note: remainder of annotations omitted.
Query Match 100.0%; Score 99; DB 2; Length 99;
Best Local Similarity 100.0%; Pred. No. 1.41e-08;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 75 ELCLDPKENWVQ 86
|:|||||:|
QY 1 ELCLDPKENWVQ 12

RESULT 2
ENTRY #type complete
TITLE interleukin-8 - rabbit
ALTERNATE_NAMES
ORGANISM #formal_name Oryctolagus cuniculus #common_name domestic rabbit
DATE 14-Feb-1997 #sequence_revision 14-Feb-1997 #text_change
09-Aug-1997
I46871; SI3052
I46857
#authors Yoshimura, T.; Yuhki, N.
#journal J. Immunol. (1991) 146:3483-3488
#title Neutrophil attractant/activation protein-1 and monocyte chemotactic protein-1 in rabbit: cDNA cloning and their expression in spleen cells.
#cross-references MUID:91225489
#accession I46871
##status preliminary; translated from GB/EMBL/DBJ
##molecule_type mRNA
##residues_type 1-101 ##label YOS
##cross-references GB:M57439; NID:g165552; PID:g165553
SI3052
#authors Beaubien, B.C.; Collins, P.D.; Jose, P.J.; Totty, N.F.; Hsuan, J.; Waterfield, M.D.; Williams, T.J.
#journal Biochem. J. (1990) 271:797-801
#title A novel neutrophil chemoattractant generated during an inflammatory reaction in the rabbit peritoneal cavity in vivo. Purification, partial amino acid sequence and structural relationship to interleukin 8.
#cross-references MUID:91058518
#accession SI3052
##molecule_type protein
##residues 23-33,'X',35,'X',37-46,'X',48-49,'I',51-53 ##label BEA
CLASSIFICATION #superfamily beta-thromboglobulin
KEYWORDS cytokine
SUMMARY #length 101 #molecular-weight 11402 #checksum 1085

Query Match 96.0%; Score 95; DB 2; Length 101;
Best Local Similarity 91.7%; Pred. No. 1.10e-07;
Matches 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Db 75 ELCLDPKENWVQ 86
|:|||||:|
QY 1 ELCLDPKENWVQ 12

RESULT 3
ENTRY #type complete
TITLE interleukin-8 - dog
ORGANISM #formal_name Canis lupus familiaris #common_name dog
DATE 19-May-1994 #sequence_revision 19-May-1994 #text_change
12-Apr-1995
JN0841
ACCESSIONS
#authors Legastelois, I.; Greenland, T.; Arnaud, P.; Mornex, J.F.; Cordier, G.
#submission submitted to the EMBL Data Library, March 1994
#description Nucleotide sequence of ovine interleukin 8 cDNA using polymerase chain reaction.
#accession S42496

```

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JN0841
Ishikawa, J.; Suzuki, S.; Hotta, K.; Hirota, Y.; Mizuno, S.; Suzuki, K.
Gene (1993) 131:305-306
#journal Cloning of a canine gene homologous to the human interleukin-8-encoding gene.
#title Interleukin-8-encoding gene.
#cross-references MUID:94010328
#accession JN0841
##molecule_type DNA
##residues 1-95 ##label ISH
COMMENT This protein is a polymorphonuclear leukocytes chemotactic factor and is involved in the host defense function.
GENETICS
#introns 22/1; 67/2
CLASSIFICATION #superfamily beta-thromboglobulin
SUMMARY #length 95 #molecular-weight 10611 #checksum 3157

Query Match 88.9%; Score 88; DB 2; Length 95;
Best Local Similarity 83.3%; Pred. No. 3.72e-06;
Matches 10; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Db 75 EVCLDPKEKWVQ 86
|:|||||:|
QY 1 ELCLDPKENWVQ 12

RESULT 4
ENTRY #type complete
TITLE interleukin-8 - sheep
ORGANISM #formal_name Ovis sp. #common_name sheep
DATE 21-Feb-1997 #sequence_revision 21-Feb-1997 #text_change
09-May-1997
I46997
ACCESSIONS
REFERENCE
#authors Seow, H.F.; Yoshimura, T.; Wood, P.R.; Colditz, I.G.
#journal Immunol. Cell Biol. (1994) 72:398-405
#title Cloning, sequencing, expression and inflammatory activity in skin of ovine interleukin-8.
#cross-references MUID:95137691
#accession I46997
##status preliminary; translated from GB/EMBL/DBJ
##molecule_type mRNA
##residues 1-101 ##label SEO
##cross-references GB:S74436; NID:g786590; PID:g786591
GENETICS
#gene OIL-8
CLASSIFICATION #superfamily beta-thromboglobulin
SUMMARY #length 101 #molecular-weight 11292 #checksum 294

Query Match 88.9%; Score 88; DB 2; Length 101;
Best Local Similarity 83.3%; Pred. No. 3.72e-06;
Matches 10; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Db 75 EVCLDPKEKWVQ 86
|:|||||:|
QY 1 ELCLDPKENWVQ 12

RESULT 5
ENTRY #type complete
TITLE interleukin 8 - sheep
ORGANISM #formal_name Ovis orientalis aries, Ovis ammon aries
#common_name domestic sheep
DATE 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change
08-Sep-1997
S42496
ACCESSIONS
REFERENCE
#authors Legastelois, I.; Greenland, T.; Arnaud, P.; Mornex, J.F.; Cordier, G.
#submission submitted to the EMBL Data Library, March 1994
#description Nucleotide sequence of ovine interleukin 8 cDNA using polymerase chain reaction.
#accession S42496

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```

##status preliminary
##molecule_type mRNA
##residues 1-101 #label LEG
##cross-references EMBL:X78306; NID:g463253; PID:g463254
CLASSIFICATION #superfamily beta-thromboglobulin
SUMMARY #length 101 #molecular-weight 11292 #checksum 294

Query Match 88.9%; Score 88; DB 2; Length 101;
Best Local Similarity 83.3%; Pred. No. 3.72e-06;
Matches 10; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Db 75 EVCLDPKRWQ 86
I:|||||:|
QY 1 ELCLDPKENWQ 12

RESULT 6
ENTRY #type complete
TITLE alveolar macrophage chemotactic factor-I (AMCF-I)
ORGANISM interleukin-8 homolog - pig
DATE #formal_name Sus scrofa domestica #common_name domestic pig
#cross-references MIM:180417
#accession A44253
#authors Goodman, R.B.; Foster, D.C.; Mathewes, S.L.; Osborn, S.G.;
#journal Kuijper, J.L.; Forstrom, J.W.; Martin, T.R.
#title Biochemistry (1992) 31:10483-10490
#cross-references MIM:93041741
#accession A44253
##status preliminary
##molecule_type mRNA; protein
##residues 1-103 #label GOO
##experimental_source alveolar macrophage
#note sequence extracted from NCBI backbone (NCBIN:117415,
NCBIP:117416)
CLASSIFICATION #superfamily beta-thromboglobulin
SUMMARY #length 103 #molecular-weight 11677 #checksum 8904

Query Match 88.9%; Score 88; DB 2; Length 103;
Best Local Similarity 83.3%; Pred. No. 3.72e-06;
Matches 10; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Db 75 EVCLDPKRWQ 86
I:|||||:|
QY 1 ELCLDPKENWQ 12

RESULT 7
ENTRY #type complete
TITLE interleukin-8 precursor - pig
ORGANISM #formal_name Sus scrofa domestica #common_name domestic pig
DATE 02-Jun-1995 #sequence_revision 02-Jun-1995 #text_change
08-Sep-1997
ACCESSIONS A53096
REFERENCE A53096
#authors Lin, G.; Pearson, A.E.; Scamurra, R.W.; Zhou, Y.; Baarsch,
M.J.; Weiss, D.J.; Murtaugh, M.P.
#journal J. Biol. Chem. (1994) 269:77-85
#title Regulation of interleukin-8 expression in porcine alveolar
macrophages by bacterial lipopolysaccharide.
#cross-references MIM:103307
#accession A53096
##status preliminary
##molecule_type mRNA
##residues 1-103 #label LIN
##cross-references GB:M86923; NID:g164520; PID:g164521
CLASSIFICATION #superfamily beta-thromboglobulin
SUMMARY #length 103 #molecular-weight 11633 #checksum 8835

Query Match 88.9%; Score 88; DB 2; Length 103;
Best Local Similarity 83.3%; Pred. No. 3.72e-06;
Matches 10; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Db 75 EVCLDPKRWQ 86
I:|||||:|
QY 1 ELCLDPKENWQ 12

RESULT 8
ENTRY #type complete
TITLE Neutrophil attractant protein-1 - guinea pig
ORGANISM #formal_name Cavia porcellus #common_name guinea pig
DATE 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change
23-Feb-1997
ACCESSIONS I48148
REFERENCE I48148
#authors Yoshimura, T.; Johnson, D.G.
#journal J. Immunol. (1993) 151:6225-6236
#title cDNA cloning and expression of guinea pig neutrophil
attractant protein-1 (NAP-1): NAP-1 is highly conserved in
guinea pig.
#cross-references MIM:94065176
#accession I48148
##status preliminary; translated from GB/EMBL/DBJ
##molecule_type DNA
##residues 1-101 #label RES
##cross-references GB:I04986; NID:g459764; PID:g459765
GENETICS NAP-1
#gene #superfamily beta-thromboglobulin
CLASSIFICATION #length 101 #molecular-weight 11414 #checksum 2363
SUMMARY

Query Match 85.9%; Score 85; DB 2; Length 101;
Best Local Similarity 75.0%; Pred. No. 1.63e-05;
Matches 9; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 75 QLCLDPKRWQ 86
I:|||||:|
QY 1 ELCLDPKENWQ 12

RESULT 9
ENTRY #type complete
TITLE monocyte chemoattractant protein-1 - bovine
ORGANISM #formal_name Bos primigenius indicus #common_name zebu cattle
DATE 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change
03-May-1996
ACCESSIONS JC2336
REFERENCE JC2336
#authors Wempe, F.; Kuhlmann, J.K.; Scheit, K.H.
#journal Biochem. Biophys. Res. Commun. (1994) 202:1272-1279
#title Characterization of the bovine monocyte chemoattractant
protein-1 gene.
#cross-references MIM:94338337
#accession JC2336
##molecule_type protein
##residues 1-99 #label WEM
GENETICS MCP-1
#gene MCP-1
#introns 26/1: 65/2
CLASSIFICATION #superfamily macrophage inflammatory protein
SUMMARY #length 99 #molecular-weight 11114 #checksum 9401

Query Match 81.8%; Score 81; DB 2; Length 99;
Best Local Similarity 75.0%; Pred. No. 1.14e-04;
Matches 9; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 73 ELCADPKRWQ 84
I:|||||:|
QY 1 ELCLDPKENWQ 12

```

Sat Feb 5 15:13:51 2000

```

RESULT 10
ENTRY
  TITLE      #type complete
  ALTERNATE_NAMES
  ORGANISM   monocyte chemoattractant protein 1 precursor - bovine
  DATE       #formal_name Bos primigenius taurus #common_name cattle
  03-Aug-1992 #sequence_revision 03-Aug-1992 #text_change
  31-Oct-1997
ACCESSIONS
REFERENCE
  #authors   Wempe, F.; Henschen, A.; Scheit, K.H.
  #journal   DNA Cell Biol. (1991) 10:671-679
  #title     Gene expression and cDNA cloning identified a major basic
              protein constituent of bovine seminal plasma as bovine
              monocyte chemoattractant protein-1 (MCP-1).
#cross-references MUID:92096117
#accession A39296
  #molecule_type mRNA
  #residues 1-99 #label WEM
#cross-references GB:M84602; GB:M85264; NID:g163394; PID:g163395
#accession B39296
  #molecule_type protein
  #residues 50-68,'X',70-74,'X',76 #label WE2
#EXPERIMENTAL_SOURCE seminal vesicle
CLASSIFICATION #superfamily macrophage inflammatory protein
KEYWORDS
  1-23
  24-99
  94
SUMMARY
  #domain signal sequence #status predicted #label SIG\
  #product monocyte chemoattractant protein 1 #status
  #predicted #label MAT\
  #binding_site carbohydrate (Asn) (covalent) #status
  #predicted
  #length 99 #molecular-weight 11114 #checksum 9401
  Query Match 81.8%; Score 81; DB 2; Length 99;
  Best Local Similarity 75.0%; Pred. NO. 1.14e-04;
  Matches 9; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 73 ELCDPKQKVVQ 84
QY 1 ELCDPKENVVQ 12

RESULT 11
ENTRY
  TITLE      #type complete
  ALTERNATE_NAMES
  ORGANISM   monocyte chemoattractant protein 1 precursor - human
  DATE       GDCF-1; glioma-derived monocyte chemotactic factor 1; MCAF;
              MCP-1; monocyte chemotactic factor 1; monocyte secretory
              protein; tumor-derived chemotactic factor
              glioma-derived chemotactic factor 2 (GDCF-2)
              #formal_name Homo sapiens #common_name man
              20-Feb-1993 #sequence_revision 20-Feb-1993 #text_change
              20-Mar-1998
ACCESSIONS
REFERENCE
  #authors   Shyy, Y.J.; Li, Y.S.; Kolattukudy, P.E.
  #journal   Biochem. Biophys. Res. Commun. (1990) 169:346-351
  #title     Structure of human monocyte chemotactic protein gene and its
              regulation by TPA.
#cross-references MUID:90290466
#accession A35474
  #molecule_type DNA
  #residues 1-99 #label SHY
#cross-references GB:M37719; NID:g187447; PID:g487124
REFERENCE
  #authors   Rollins, B.J.; Stier, P.; Ernst, T.; Wong, G.G.
  #journal   Mol. Cell. Biol. (1989) 9:4687-4695
  #title     The human homolog of the JE gene encodes a monocyte secretory
              protein.
#cross-references MUID:90097880
#accession A33476
  #molecule_type mRNA
  #residues 1-99 #label ROL
#cross-references GB:M30816; GB:M31625; GB:M31626; NID:g188701;
              PID:g386961
REFERENCE
  #authors   Yoshimura, T.; Yuhki, N.; Moore, S.K.; Appella, E.; Lerman,
              M.I.; Leonard, E.J.
  #journal   FEBS Lett. (1989) 244:487-493
  #title     Human monocyte chemoattractant protein-1 (MCP-1). Full-length
              cDNA cloning, expression in mitogen-stimulated blood
              mononuclear leukocytes, and sequence similarity to mouse
              competence gene JE.
#cross-references MUID:89153605
#accession S03339
  #status not compared with conceptual translation
  #molecule_type mRNA
  #residues 1-99 #label YOS
#cross-references GB:X14768; NID:g34513; PID:g34514
#EXPERIMENTAL_SOURCE glioma cell line U-105MG
REFERENCE
  #authors   Yoshimura, T.; Leonard, E.J.
  #journal   Adv. Exp. Med. Biol. (1991) 305:47-56
  #title     Human monocyte chemoattractant protein-1 (MCP-1).
#cross-references MUID:92095166
#accession I51841
  #status preliminary; translated from GB/EMBL/DBJ
  #molecule_type mRNA
  #residues 1-99 #label YO2
#cross-references GB:S71513; NID:g240867; PID:g240868
REFERENCE
  #authors   Bottazzi, B.; Colotta, F.; Sica, A.; Nobili, N.; Mantovani,
              A.
  #journal   Int. J. Cancer (1990) 45:795-797
  #title     A chemoattractant expressed in human sarcoma cells
              (tumor-derived chemotactic factor, TDCF) is identical to
              monocyte chemoattractant protein-1/monocyte chemotactic and
              activating factor (MCP-1/MCAF).
#accession A60299
  #status not compared with conceptual translation
  #molecule_type mRNA
  #residues 1-99 #label BOT
REFERENCE
  #authors   Furutani, Y.; Nomura, H.; Notake, M.; Oyama, Y.; Fukui, T.;
              Yamada, M.; Larsen, C.G.; Oppenheim, J.J.; Matsushima, K.
  #journal   Biochem. Biophys. Res. Commun. (1989) 159:249-255
  #title     Cloning and sequencing of the cDNA for human monocyte
              chemotactic and activating factor (MCAF).
#cross-references MUID:89165862
#accession A32300
  #status not compared with conceptual translation
  #molecule_type mRNA
  #residues 1-99 #label FUR
#cross-references GB:M24545; NID:g187434; PID:g307163
REFERENCE
  #authors   Robinson, E.A.; Yoshimura, T.; Leonard, E.J.; Tanaka, S.;
              Griffin, P.R.; Shabanowitz, J.; Hunt, D.F.; Appella, E.
  #journal   Proc. Natl. Acad. Sci. U.S.A. (1989) 86:1850-1854
  #title     Complete amino acid sequence of a human monocyte
              chemoattractant, a putative mediator of cellular immune
              reactions.
#cross-references MUID:89184525
#accession A32396
  #molecule_type protein
  #residues 'X',25-99 #label ROB
REFERENCE
  #authors   Decock, B.; Conings, R.; Lenaerts, J.P.; Billiau, A.; Van
              Damme, J.
  #journal   Biochem. Biophys. Res. Commun. (1990) 167:904-909
  #title     Identification of the monocyte chemotactic protein from human
              osteosarcoma cells and monocytes: detection of a novel
              N-terminally processed form.
#cross-references MUID:90211336
#accession A34561
  #molecule_type protein
  #residues 29-33,'XX',36-52;82-92 #label DEC

```

```

REFERENCE I57488
#authors Li, Y.S.; Shyy, Y.J.; Wright, J.G.; Valente, A.J.; Cornhill,
#journal J.F.; Kolattukudy, P.E.
#title Mol. Cell. Biochem. (1993) 126:61-68
#cross-references MUID:94150478
#accession I57488
##status translated from GB/EMBL/DBJ
##molecule_type mRNA
##residues 1-99 ##label LIY
##cross-references GB:S69738; NID:g545464; PID:g545465
REFERENCE JC1096
#authors Ye, Q.N.; Su, G.F.; Yuan, Y.; Huang, C.F.
#journal Chinese J. Microbiol. Immunol. (1994) 14:29-32
#title The PCR, cloning and sequencing of human monocyte
#accession JC1096
#molecule_type mRNA
#residues 24-28, 'Q', 30-99 ##label YEQ
GENETICS GDB:SCYA2
#map_position 17q11.2-17q12
#cross-references GDB:I125279; OMIM:158105
CLASSIFICATION #superfamily macrophage inflammatory protein
KEYWORDS cytokine; glycoprotein; inflammation; pyroglutamic acid
FEATURE 1-23
24-99 #domain signal sequence #status predicted #label SIG\
#product monocyte chemoattractant protein 1 #status
29-99 #product monocyte chemoattractant protein 1 #status
24 #status experimental #label MAT\
#modified site pyrrolidone carboxylic acid (Gln) (in
37 mature form) #status experimental\
#binding_site carbohydrate (Asn) (covalent) #status
predicted
SUMMARY #length 99 #molecular-weight 11025 #checksum 7984
Query Match 75.8%; Score 75; DB 2; Length 99;
Best Local Similarity 66.7%; Pred. No. 1.96e-03;
Matches 8; Conservative 3; Mismatches 1; Indels 0; Gaps 0;
Db 73 EICADPKKQWVQ 84
QY 1 ELCLDPKENWVQ 12
RESULT 12
ENTRY I52322 #type complete
TITLE macrophage inflammatory protein-1alpha - rat
ORGANISM #formal_name Rattus norvegicus #common_name Norway rat
DATE 29-May-1998 #sequence_revision 29-May-1998 #text_change
02-Jul-1998
ACCESSIONS I52322
REFERENCE I52322
#authors Shi, M.M.; Godleski, J.J.; Paulauskis, J.D.
#journal Biochem. Biophys. Res. Commun. (1995) 211:289-295
#title Molecular cloning and posttranscriptional regulation of
macrophage inflammatory protein-1 alpha in alveolar
macrophages.
#cross-references MUID:95298037
#accession I52322
##status preliminary; translated from GB/EMBL/DBJ
##molecule_type mRNA
##residues 1-92 ##label RES
##cross-references EMBL:U22414; NID:g790632; PID:g790633
CLASSIFICATION #superfamily macrophage inflammatory protein
SUMMARY #length 92 #molecular-weight 10335 #checksum 3184
Query Match 74.7%; Score 74; DB 2; Length 92;
Best Local Similarity 66.7%; Pred. No. 3.12e-03;
Matches 8; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

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Db 71 QICADPKETWVQ 82
QY 1 ELCLDPKENWVQ 12
RESULT 13
ENTRY JC2136 #type complete
TITLE monocyte chemoattractant protein-1 precursor - pig
ORGANISM #formal_name Sus scrofa domestica #common_name domestic pig
DATE 30-Sep-1993 #sequence_revision 20-Aug-1994 #text_change
17-Mar-1999
ACCESSIONS JC2136; S57498
REFERENCE JC2136
#authors Hosang, K.; Knoke, I.; Klaudiny, J.; Wempe, F.; Wuttke, W.;
Scheit, K.H.
#journal Biochem. Biophys. Res. Commun. (1994) 199:962-968
#title Porcine luteal cells express monocyte chemoattractant
protein-1 (MCP-1): Analysis by polymerase chain reaction
and cDNA cloning.
#cross-references MUID:94183284
#accession JC2136
##molecule_type mRNA
##residues 1-99 ##label HOS
REFERENCE S57497
#authors Zach, O.
#submission submitted to the EMBL Data Library, July 1994
#accession S57498
##status preliminary
##molecule_type mRNA
##residues 1-99 ##label ZAC
##cross-references EMBL:X79416; NID:g872312; PID:g872313
CLASSIFICATION #superfamily macrophage inflammatory protein
KEYWORDS glycoprotein
FEATURE 1-23
24-99 #domain signal sequence #status predicted #label SIG\
#product monocyte chemoattractant protein-1 #status
94 #binding_site carbohydrate (Asn) (covalent) #status
predicted
SUMMARY #length 99 #molecular-weight 10976 #checksum 9768
Query Match 74.7%; Score 74; DB 2; Length 99;
Best Local Similarity 58.3%; Pred. No. 3.12e-03;
Matches 7; Conservative 4; Mismatches 1; Indels 0; Gaps 0;
Db 73 EICADPKKQWVQ 84
QY 1 ELCLDPKENWVQ 12
RESULT 14
ENTRY I50417 #type complete
TITLE RSV-induced protein - chicken
ORGANISM #formal_name Gallus gallus #common_name chicken
DATE 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change
16-Feb-1997
ACCESSIONS I50417
REFERENCE I50417
#authors Bedard, P.
#journal Proc. Natl. Acad. Sci. U.S.A. (1987) 84:6715-6719
#title Constitutive expression of a gene encoding a polypeptide
homologous to biologically active human platelet protein in
Rous sarcoma virus-transformed fibroblasts.
#cross-references MUID:88016162
#accession I50417
##status preliminary; translated from GB/EMBL/DBJ
##molecule_type mRNA
##residues 1-103 ##label BED
##cross-references GB:J02975; NID:g212643; PID:g212644
CLASSIFICATION #superfamily beta-thromboglobulin
SUMMARY #length 103 #molecular-weight 11090 #checksum 8267

```


Query Match 72.7%; Score 72; DB 2; Length 103;
Best Local Similarity 66.7%; Pred. No. 7.83e-03;
Matches 8; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Db 74 EVCLDPTAPWVQ 85
|:|||||
QY 1 ELCLDPKENWVQ 12

RESULT 15
ENTRY A26736 #type complete
TITLE transformation-induced protein precursor (clone 9E3) -
ORGANISM chicken
DATE #formal_name Gallus gallus #common_name chicken
19-Nov-1988 #sequence_revision 19-Nov-1988 #text_change
20-Mar-1998
ACCESSIONS A26736
REFERENCE A26736
#authors Sugano, S.; Stoeckle, M.Y.; Hanafusa, H.
#journal Cell (1987) 49:321-328
#title Transformation by Rous sarcoma virus induces a novel gene
with homology to a mitogenic platelet protein.
#cross-references MUID:87187628
#accession A26736
##molecule_type mRNA
##residues 1-103 #label SUG
##cross-references GB:M16199; NID:g211735; PID:g211736
CLASSIFICATION #superfamily beta-thromboglobulin
KEYWORDS growth factor
FEATURE 1-17
18-103 #domain signal sequence #status predicted #label SIG\
#product transformation-induced protein #status
predicted #label MAT
SUMMARY #length 103 #molecular-weight 11056 #checksum 8297

Query Match 72.7%; Score 72; DB 2; Length 103;
Best Local Similarity 66.7%; Pred. No. 7.83e-03;
Matches 8; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Db 74 EVCLDPTAPWVQ 85
|:|||||
QY 1 ELCLDPKENWVQ 12

Search completed: Fri Feb 4 17:09:26 2000
Job time : 37 secs.

M P S R C H
(TM)

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MPsrch_pp protein - protein database search, using Smith-Waterman algorithm
Run on: Fri Feb 4 17:08:12 2000; MasPar time 3.54 Seconds
72.129 Million cell updates/sec

Tabular output not generated.

Title: >US-09-150-813-40
Description: (1-12) from US09150813.pap
Perfect Score: 99
Sequence: 1 ELCLDPKENVWQ 12

Scoring table: PAM 150
Gap 15

Searched: 170751 seqs, 21266608 residues

Post-processing: Minimum Match 0%
Listing first 45 summaries

Database: a-geneseq35
1:part1 2:part2 3:part3 4:part4 5:part5 6:part6 7:part7
8:part8 9:part9 10:part10 11:part11 12:part12 13:part13
14:part14 15:part15 16:part16 17:part17 18:part18
19:part19 20:part20 21:part21 22:part22 23:part23
24:part24 25:part25 26:part26 27:part27 28:part28
29:part29 30:part30 31:part31 32:part32 33:part33
34:part34 35:part35 36:part36 37:part37 38:part38
39:part39

Statistics: Mean 18.854; Variance 67.209; scale 0.281

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match | Length | ID | Description | Pred. No. |
|------------|-------|-------------|--------|----|-------------|-----------|
| 1 | 99 | 100.0 | 29 | 4 | R20237 | 7.23e-03 |
| 2 | 99 | 100.0 | 39 | 22 | W04515 | 7.23e-03 |
| 3 | 99 | 100.0 | 67 | 7 | R38087 | 7.23e-03 |
| 4 | 99 | 100.0 | 67 | 7 | R38086 | 7.23e-03 |
| 5 | 99 | 100.0 | 68 | 7 | R38085 | 7.23e-03 |
| 6 | 99 | 100.0 | 68 | 7 | R38083 | 7.23e-03 |
| 7 | 99 | 100.0 | 68 | 7 | R38084 | 7.23e-03 |
| 8 | 99 | 100.0 | 69 | 7 | R38081 | 7.23e-03 |
| 9 | 99 | 100.0 | 69 | 7 | R38082 | 7.23e-03 |
| 10 | 99 | 100.0 | 72 | 20 | R99805 | 7.23e-03 |
| 11 | 99 | 100.0 | 72 | 27 | W41519 | 7.23e-03 |
| 12 | 99 | 100.0 | 72 | 26 | P81838 | 7.23e-03 |
| 13 | 99 | 100.0 | 72 | 23 | W25713 | 7.23e-03 |
| 14 | 99 | 100.0 | 72 | 23 | W25708 | 7.23e-03 |
| 15 | 99 | 100.0 | 72 | 23 | W25710 | 7.23e-03 |
| 16 | 99 | 100.0 | 72 | 23 | W25707 | 7.23e-03 |

| | | | | | | | |
|----|----|-------|----|----|--------|-----------------------|----------|
| 17 | 99 | 100.0 | 72 | 24 | W26204 | Neutrophil-specific c | 7.23e-03 |
| 18 | 99 | 100.0 | 72 | 17 | R88057 | Human interleukin-8. | 7.23e-03 |
| 19 | 99 | 100.0 | 72 | 11 | R70183 | Soluble interleukin-8 | 7.23e-03 |
| 20 | 99 | 100.0 | 72 | 20 | R99812 | Chemokine-like protei | 7.23e-03 |
| 21 | 99 | 100.0 | 72 | 1 | R03166 | Human neutrophil chem | 7.23e-03 |
| 22 | 99 | 100.0 | 72 | 20 | R99804 | Chemokine-like protei | 7.23e-03 |
| 23 | 99 | 100.0 | 72 | 23 | W25709 | Interleukin-8 soluble | 7.23e-03 |
| 24 | 99 | 100.0 | 72 | 35 | W70289 | Mutant human IL-8, R4 | 7.23e-03 |
| 25 | 99 | 100.0 | 72 | 23 | W25701 | Mutant human IL-8, R4 | 7.23e-03 |
| 26 | 99 | 100.0 | 72 | 22 | W04516 | Interleukin(1-72) pro | 7.23e-03 |
| 27 | 99 | 100.0 | 72 | 23 | W25714 | Mutant human IL-8, Y1 | 7.23e-03 |
| 28 | 99 | 100.0 | 72 | 7 | R38080 | Human interleukin-8 m | 7.23e-03 |
| 29 | 99 | 100.0 | 72 | 20 | R99803 | Chemokine-like protei | 7.23e-03 |
| 30 | 99 | 100.0 | 72 | 1 | P90913 | Sequence of a synthe | 7.23e-03 |
| 31 | 99 | 100.0 | 72 | 1 | R03615 | Human neutrophil chem | 7.23e-03 |
| 32 | 99 | 100.0 | 72 | 20 | R99806 | Chemokine-like protei | 7.23e-03 |
| 33 | 99 | 100.0 | 73 | 1 | P90078 | Human neutrophil acti | 7.23e-03 |
| 34 | 99 | 100.0 | 73 | 1 | R99817 | Chemokine-like protei | 7.23e-03 |
| 35 | 99 | 100.0 | 73 | 20 | R99816 | Chemokine-like protei | 7.23e-03 |
| 36 | 99 | 100.0 | 73 | 20 | R99814 | Interleukin-8. | 7.23e-03 |
| 37 | 99 | 100.0 | 73 | 20 | R99818 | Chemokine-like protei | 7.23e-03 |
| 38 | 99 | 100.0 | 73 | 20 | R99815 | Chemokine-like protei | 7.23e-03 |
| 39 | 99 | 100.0 | 77 | 3 | R13168 | [Ala IL-8]77 leukocy | 7.23e-03 |
| 40 | 99 | 100.0 | 77 | 1 | P90017 | Human neutrophil acti | 7.23e-03 |
| 41 | 99 | 100.0 | 97 | 13 | R70795 | Interleukin-8/NAP-1. | 7.23e-03 |
| 42 | 99 | 100.0 | 99 | 1 | R05239 | Human neutrophil chem | 7.23e-03 |
| 43 | 99 | 100.0 | 99 | 2 | P93631 | Amino acid sequence | 7.23e-03 |
| 44 | 96 | 97.0 | 72 | 23 | W25706 | Mutant human IL-8, R4 | 1.48e-02 |
| 45 | 92 | 92.9 | 72 | 23 | W25711 | Mutant human IL-8, L4 | 3.81e-02 |

ALIGNMENTS

RESULT 1
ID R20237 standard; Protein; 29 AA.
AC R20237;
DT 01-MAY-1992 (first entry)
DE NAF(44-72) peptide inhibitor of neutrophil activating factor.
KW bronchitis; neutrophil chemotaxis; ARDS.
OS Synthetic.
PN US079228-A.
PD 07-JAN-1992. 475658.
PF 05-FEB-1990; US-475658.
PR 05-FEB-1990; US-475658.
PA (TEXA) UNIV OF TEXAS SYST.
PI Cohen AB, Miller EJ, Nagao S, Carr FK;
DR WPI. 92-041038/05.
PT New peptide inhibitors of neutrophil activating factor - which inhibit chemotaxis, for treating adult respiratory distress syndrome and other inflammatory lesions caused by NAF

PS Claim 8; Column 9; lpp; English.
CC NAF(44-72) is a preferred peptide derived from NAF which is antagonistic to NAF and has no chemotactic activity. It inhibited NAF-induced migration by 34 per cent. When used with a second CC preferred peptide, i.e. NAF(3-25) (see R20236) inhibition was 70 per cent.
SQ Sequence 29 AA;
SQ Query Match 100.0%; Score 99; DB 4; Length 29;
Best Local Similarity 100.0%; Pred. No. 7.23e-03;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 5 elcldpkenwvq 16
| | | | | | | | | |
QY 1 ELCLDPKENVWQ 12

RESULT 2
ID W04515 standard; peptide; 39 AA.
AC W04515;
DT 30-JUL-1997 (first entry)
DE Interleukin-8(34-72) used in novel synthesis method.
KW Thioester; synthesis; ligation; catalysis; thiol; condensation;

KW link; beta-aminothioester; bond; amide; production; disulphide;
 KW refolding; oxidation; interleukin 8; IL-8.
 OS Synthetic.
 PN WO9634878-A1.
 PD 07-NOV-1996.
 PF 04-MAY-1995; U05668.
 PR 04-MAY-1995; WO-U05668.
 PA (SCEI) SCRIPPS RES INST.
 PI Dawson PE, Kent SBH, Muir TW;
 DR WPI; 96-506095/50.
 PT Synthesis of protein by chemical ligation of unprotected peptide(s)
 PT - by reaction of N-terminal Cys with C-terminal thioester and
 PT spontaneous rearrangement of intermediate prod.
 PS Example 3; Page 47; 61pp; English.
 CC The present peptide, which has an amino-terminal cysteine residue,
 CC was used in a novel synthesis method, comprising the ligation of a
 CC 1st oligopeptide (OP) to a 2nd OP, end to end, to produce an OP
 CC product. This comprises mixing the 1st and 2nd OP (which have a
 CC carboxy-terminal thioester and an amino-terminal Cys with an
 CC unoxidised SH side chain) in a solution containing a catalytic
 CC thiol, condensing the terminal groups to form an intermediate OP,
 CC in which components are linked by a beta-aminothioester bond and
 CC rearranging the bond to give a product OP linked by an amide bond.
 CC The method can be used for the production of full length proteins,
 CC which can be made into native, disulphide containing proteins by
 CC refolding and oxidation. The method also combines chemoselective,
 CC unprotected, peptide reactions, with native peptide bond formation,
 CC increasing the size of protein that can be made by chemical
 CC synthesis. 39 AA;
 SQ Sequence 39 AA;

Query Match 100.0%; Score 99; DB 22; Length 39;
 Best Local Similarity 100.0%; Pred. No. 7.23e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Db 15 elcldpkenwvq 26
 QY 1 ELCLDPKENWVQ 12

RESULT 3
 ID R38087 standard; protein; 67 AA.
 AC R38087;
 DT 13-OCT-1993 (first entry)
 DE Modified human interleukin-8 analogue (3-69).
 KW Analogues; modified; neutrophil activators; antagonists; human;
 KW competitive antagonist; IL-8; inflammation; treatment; chemotaxis;
 KW activity; stimulation; inflammatory response.
 OS Synthetic.
 PN WO9311159-A.
 PD 10-JUN-1993.
 PF 03-DEC-1992; CA0528.
 PR 04-DEC-1991; US-801578.
 PA (BIOM-) BIOMEDICAL RES CENT LTD.
 PI Clark-Lewis I, Moser B;
 DR WPI; 93-196997/24.
 PT New interleukin-8 analogues modified in specified region - used as
 PT neutrophil activators or for blocking effect of IL-8 on neutrophil(s)
 PT for treatment of inflammation
 PS Claim 23; Page 30; 47pp; English.
 CC The sequence is that of an analogue of interleukin-8 (IL-8) comprising
 CC IL-8 residues 3-69. It is able to bind neutrophils and act as a
 CC competitive antagonist of IL-8, i.e. it can be used to treat
 CC inflammation, e.g. by intravenous injection or oral admin. It can
 CC act as a neutrophil activator and so can be used to stimulate an
 CC inflammatory response.
 SQ Sequence 67 AA;

Query Match 100.0%; Score 99; DB 7; Length 67;
 Best Local Similarity 100.0%; Pred. No. 7.23e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Db 46 elcldpkenwvq 57

QY 1 ELCLDPKENWVQ 12
 |||||

RESULT 4
 ID R38086 standard; protein; 67 AA.
 AC R38086;
 DT 13-OCT-1993 (first entry)
 DE Modified human interleukin-8 analogue (6-72).
 KW Analogues; modified; neutrophil activators; antagonists; human;
 KW competitive antagonist; IL-8; inflammation; treatment; chemotaxis;
 KW activity; stimulation; inflammatory response.
 OS Synthetic.
 PN WO9311159-A.
 PD 10-JUN-1993.
 PF 03-DEC-1992; CA0528.
 PR 04-DEC-1991; US-801578.
 PA (BIOM-) BIOMEDICAL RES CENT LTD.
 PI Clark-Lewis I, Moser B;
 DR WPI; 93-196997/24.
 PT New interleukin-8 analogues modified in specified region - used as
 PT neutrophil activators or for blocking effect of IL-8 on neutrophil(s)
 PT for treatment of inflammation
 PS Claim 19; Page 29; 47pp; English.
 CC The sequence is that of an analogue of interleukin-8 (IL-8) comprising
 CC IL-8 residues 6-72. It is able to bind neutrophils and act as a
 CC competitive antagonist of IL-8, i.e. it can be used to treat
 CC inflammation, e.g. by intravenous injection or oral admin. It can
 CC act as a neutrophil activator and so can be used to stimulate an
 CC inflammatory response.
 SQ Sequence 67 AA;

Query Match 100.0%; Score 99; DB 7; Length 67;
 Best Local Similarity 100.0%; Pred. No. 7.23e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Db 43 elcldpkenwvq 54
 QY 1 ELCLDPKENWVQ 12

RESULT 5
 ID R38085 standard; protein; 68 AA.
 AC R38085;
 DT 13-OCT-1993 (first entry)
 DE Modified human interleukin-8 analogue (5-72).
 KW Analogues; modified; neutrophil activators; antagonists; human;
 KW competitive antagonist; IL-8; inflammation; treatment; chemotaxis;
 KW activity; stimulation; inflammatory response.
 OS Synthetic.
 PN WO9311159-A.
 PD 10-JUN-1993.
 PF 03-DEC-1992; CA0528.
 PR 04-DEC-1991; US-801578.
 PA (BIOM-) BIOMEDICAL RES CENT LTD.
 PI Clark-Lewis I, Moser B;
 DR WPI; 93-196997/24.
 PT New interleukin-8 analogues modified in specified region - used as
 PT neutrophil activators or for blocking effect of IL-8 on neutrophil(s)
 PT for treatment of inflammation
 PS Claim 17; Page 29; 47pp; English.
 CC The sequence is that of an analogue of interleukin-8 (IL-8) comprising
 CC IL-8 residues 5-72. It is able to bind neutrophils and act as a
 CC competitive antagonist of IL-8, i.e. it can be used to treat
 CC inflammation, e.g. by intravenous injection or oral admin. It can
 CC act as a neutrophil activator and so can be used to stimulate an
 CC inflammatory response. It also has strong chemotaxis activity and
 CC can be used to attract neutrophils to a diseased area.
 SQ Sequence 68 AA;

Query Match 100.0%; Score 99; DB 7; Length 68;
 Best Local Similarity 100.0%; Pred. No. 7.23e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

Cc act as a neutrophil activator and so can be used to stimulate an
Cc inflammatory response.
Sq Sequence 68 AA;

Query Match 100.0%; Score 99; DB 7; Length 68;
Best Local Similarity 100.0%; Pred. No. 7.23e-03; Indels 0; Gaps 0;
Matches 12; Conservative 0; Mismatches 0;

Db 44 elclldpkenwvq 55
    |||||
Qy 1 ELCLDPKENWVQ 12

RESULT 6
ID R38083 standard; protein; 68 AA.
AC R38083;
DE Modified human interleukin-8 analogue Ile5 (6-72).
KW Analogues; modified; neutrophil activators; antagonists; human;
KW competitive antagonist; IL-8; inflammation; treatment; chemotaxis;
KW activity; stimulation; inflammatory response.
OS Synthetic.
FH Key Location/Qualifiers
FT region 1 /note= "Leu5 -> Ile"
PN WO9311159-A.
PD 10-JUN-1993.
PF 03-DEC-1992; CA0528.
PR 04-DEC-1991; US-801578.
PA (BIOM-) BIOMEDICAL RES CENT LTD.
PI Clark-Lewis I, Moser B;
DR WPI; 93-196997/24.
PT New interleukin-8 analogues modified in specified region - used as
PT neutrophil activators or for blocking effect of IL-8 on neutrophil(s)
PT for treatment of inflammation
PS Claim 15; Page 29; 47pp; English.
CC The sequence is that of an analogue of interleukin-8 (IL-8) comprising
CC IL-8 residues Ile5 (6-72). It is able to bind neutrophils and act
CC as a competitive antagonist of IL-8, i.e. it can be used to treat
CC inflammation, e.g. by intravenous injection or oral admin. It can
CC act as a neutrophil activator and so can be used to stimulate an
CC inflammatory response.
Sq Sequence 68 AA;

Query Match 100.0%; Score 99; DB 7; Length 68;
Best Local Similarity 100.0%; Pred. No. 7.23e-03;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 44 elclldpkenwvq 55
    |||||
Qy 1 ELCLDPKENWVQ 12

RESULT 7
ID R38084 standard; protein; 68 AA.
AC R38084;
DE Modified human interleukin-8 analogue Gln5 (6-72).
KW Analogues; modified; neutrophil activators; antagonists; human;
KW competitive antagonist; IL-8; inflammation; treatment; chemotaxis;
KW activity; stimulation; inflammatory response.
OS Synthetic.
FH Key Location/Qualifiers
FT region 1 /note= "Leu5 -> Gln"
PN WO9311159-A.
PD 10-JUN-1993.
PF 03-DEC-1992; CA0528.
PR 04-DEC-1991; US-801578.
PA (BIOM-) BIOMEDICAL RES CENT LTD.
PI Clark-Lewis I, Moser B;
DR WPI; 93-196997/24.
PT New interleukin-8 analogues modified in specified region - used as
PT neutrophil activators or for blocking effect of IL-8 on neutrophil(s)
PT for treatment of inflammation
PS Claim 16; Page 29; 47pp; English.
CC The sequence is that of an analogue of interleukin-8 (IL-8) comprising
CC IL-8 residues Gln5 (6-72). It is able to bind neutrophils and act
CC as a competitive antagonist of IL-8, i.e. it can be used to treat
CC inflammation, e.g. by intravenous injection or oral admin. It can

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Cc act as a neutrophil activator and so can be used to stimulate an
Cc inflammatory response.
Sq Sequence 68 AA;

Query Match 100.0%; Score 99; DB 7; Length 68;
Best Local Similarity 100.0%; Pred. No. 7.23e-03; Indels 0; Gaps 0;
Matches 12; Conservative 0; Mismatches 0;

Db 44 elclldpkenwvq 55
    |||||
Qy 1 ELCLDPKENWVQ 12

RESULT 8
ID R38081 standard; protein; 69 AA.
AC R38081;
DE Modified human interleukin-8 analogue (4-72).
KW Analogues; modified; neutrophil activators; antagonists; human;
KW competitive antagonist; IL-8; inflammation; treatment; chemotaxis;
KW activity; stimulation; inflammatory response.
OS Synthetic.
PN WO9311159-A.
PD 10-JUN-1993.
PF 03-DEC-1992; CA0528.
PR 04-DEC-1991; US-801578.
PA (BIOM-) BIOMEDICAL RES CENT LTD.
PI Clark-Lewis I, Moser B;
DR WPI; 93-196997/24.
PT New interleukin-8 analogues modified in specified region - used as
PT neutrophil activators or for blocking effect of IL-8 on neutrophil(s)
PT for treatment of inflammation
PS Claim 9; Page 29; 47pp; English.
CC The sequence is that of an analogue of interleukin-8 (IL-8) comprising
CC IL-8 residues 4-72. It is able to bind neutrophils and act as a
CC competitive antagonist of IL-8, i.e. it can be used to treat
CC inflammation, e.g. by intravenous injection or oral admin. It can
CC act as a neutrophil activator and so can be used to stimulate an
CC inflammatory response.
Sq Sequence 69 AA;

Query Match 100.0%; Score 99; DB 7; Length 69;
Best Local Similarity 100.0%; Pred. No. 7.23e-03;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 45 elclldpkenwvq 56
    |||||
Qy 1 ELCLDPKENWVQ 12

RESULT 9
ID R38082 standard; protein; 69 AA.
AC R38082;
DE Modified human interleukin-8 analogue Ala4Ala5 (6-72).
KW Analogues; modified; neutrophil activators; antagonists; human;
KW competitive antagonist; IL-8; inflammation; treatment; chemotaxis;
KW activity; stimulation; inflammatory response.
OS Synthetic.
FH Key Location/Qualifiers
FT region 1 /note= "Glu4 -> Ala"
FT region 2 /note= "Leu5 -> Ala"
PN WO9311159-A.
PD 10-JUN-1993.
PF 03-DEC-1992; CA0528.
PR 04-DEC-1991; US-801578.
PA (BIOM-) BIOMEDICAL RES CENT LTD.
PI Clark-Lewis I, Moser B;
DR WPI; 93-196997/24.
PT New interleukin-8 analogues modified in specified region - used as
PT neutrophil activators or for blocking effect of IL-8 on neutrophil(s)

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PT for treatment of inflammation
PS Claim 10; Page 29; 47pp; English.

CC The sequence is that of an analogue of interleukin-8 (IL-8) comprising
CC IL-8 residues Ala4Ala5 (6-72). It is able to bind neutrophils and act
CC as a competitive antagonist of IL-8, i.e. it can be used to treat
CC inflammation, e.g. by intravenous injection or oral admin. It can
CC act as a neutrophil activator and so can be used to stimulate an
CC inflammatory response.
SQ Sequence 69 AA;

Query Match 100.0%; Score 99; DB 7; Length 69;
Best Local Similarity 100.0%; Pred. No. 7.23e-03;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 45 elcldpkenwvq 56
|||||
QY 1 ELCLDPKENWVQ 12

RESULT 10

ID R99805 standard; peptide; 72 AA.

AC R99805;
DE 22-MAR-1997 (first entry)
DE Chemokine-like protein IL-8M8.
KW Human; chemokine; IL-8M8; Interleukin-8; mutant; active domain;
KW Interleukin-8-antagonist; myelosuppressive; cytostatic; antitumour;
KW leukaemia; polycythaemia vera; hypermakiaryocytopenias; therapy;
KW diagnostic; myeloid progenitor cell; expansion;
KW bone marrow transplantation.
OS Homo sapiens.

FH Key Location/Qualifiers
FT active_site 4..6

FT misc_difference 7 /note= "Mutated active domain (R99826, claim 5)"

FT misc_difference 9 /note= "Conserved Cys residue"

FT /note= "Conserved Cys residue"

FT active_site 24..27 /note= "Interleukin-8 active domain (R92319, claim 30)"

FT domain 24..33 /note= "Conserved Cys residue"

FT misc_difference 34 /note= "Conserved sequence (R99824, claim 1)"

FT /note= "Conserved Cys residue"

FT misc_difference 50 /note= "Conserved Cys residue"

FT /note= "Conserved Cys residue"

PN WO9613587-A1.

PD 09-MAY-1996.

PD 26-OCT-1995; U13897.

PR 26-OCT-1994; US-330163.

PR 07-JUN-1995; US-482111.

PA (REPK) REPLIGEN CORP.

PI Daly TJ, Larosa GJ;

DR WPI; 96-239500/24.

DR N-PSDB: T30203.

PT Chemokine-like proteins with active domains from different

PT chemokine(s) - provide modified activities, which exhibit high

PT myelo-suppressive activity

PS Claim 6; Page 78; 115pp; English.

CC This is a novel chemokine-like protein (IL-8M8), based on

CC interleukin-8 (IL-8), with 4 conserved cysteine residues. The

CC protein has been modified to include a mutation in the 1st

CC active domain, to give ELQ (R99826) instead of wild-type IL-8

CC sequence ELR (R99828, claim 10) before the 1st Cys residue, and

CC contains the IL-8 2nd active domain ELRV (R92319, part of R99824),

CC before the 3rd Cys residue. A version with an N-terminal Met residue

CC is given in R99816. The sequence has been derived by mutagenesis of

CC wild-type IL-8 (R99814). The active domains are required for

CC myelosuppressive activity. The novel chemokine shows similar

CC activity to the wild-type, and may be used as an interleukin-8-

CC antagonist to enhance myeloid cell proliferation, as an adjunctive

CC agent in chemotherapy or radiation therapy, in therapy of myelogenous

CC leukaemia, polycythaemia vera or hypermegakaryocytopenic disorders,

CC or to detect, isolate and expand progenitor cells ex vivo for
CC transplantation. The protein does not show adverse neutrophil
CC activation or inflammatory side-effects.
SQ Sequence 72 AA;

Query Match 100.0%; Score 99; DB 20; Length 72;
Best Local Similarity 100.0%; Pred. No. 7.23e-03;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 48 elcldpkenwvq 59
|||||
QY 1 ELCLDPKENWVQ 12

RESULT 11

ID W41519 standard; peptide; 72 AA.

AC W41519;

DT 14-APR-1998 (first entry)

DE Neutrophil chemotactic factor amino-terminal peptide.

KW Antibody; monoclonal; neutrophil chemotactic factor;

KW amino-terminal; quantification; detection; localisation;

KW treatment; inflammation.

OS Synthetic.

PN US5698196-A.

PD 16-DEC-1997.

PF 06-JUN-1995; 467612.

PR 16-MAR-1988; US-169033.

PR 06-JUN-1995; US-467612.

PA (USSH) US DEPT HEALTH & HUMAN SERVICES.

PI Appella E, Leonard EJ, Matsushima K, Oppenheim J,

PI Showalter SD, Yoshimura T;

DR WPI; 98-051432/05.

PT Anti-neutrophil chemotactic factor antibody - useful to assay for

PT factor and treat inflammation

PS Claim 1; Column 4; 8pp; English.

CC A novel antibody, preferably a monoclonal Ab (MAB), has specific

CC binding affinity for a neutrophil chemotactic factor (NCF) having

CC the present amino-terminal sequence. The MAB can be used to

CC quantify, detect or localise the NCF in a sample, and treat

CC inflammatory conditions.

CC Sequence 72 AA;

Query Match 100.0%; Score 99; DB 27; Length 72;

Best Local Similarity 100.0%; Pred. No. 7.23e-03;

Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 48 elcldpkenwvq 59
|||||

QY 1 ELCLDPKENWVQ 12

RESULT 12

ID P81838 standard; peptide; 72 AA.

AC P81838;

DT 07-NOV-1990 (first entry)

DE Sequence of a synthetic neutrophil chemotactic polypeptide (NCF)

KW Inflammation; anti-neutrophil chemotactic polypeptide antibody.

PN US7169033-A.

PD 27-SEP-1988.

PF 16-MAR-1988; 169033.

PR 16-MAR-1988; US-169033.

PA (USSH) US DEPT HEALTH & HUMAN.

PI Matsushima K, Hoshimura T, Leonard EJ, Oppenheim L, Appella E;

PI Showalter SD;

DR WPI; 88-322571/45.

PT Synthetic neutrophil chemo-tactic factor -

PT and its monoclonal antibodies useful for treating inflammatory

PS conditions

CC Claim 1; Page 8; 11pp; English.

CC The claimed NCF is composed in whole or in part of the AA sequence in

CC P90913. Anti-NCF MABs are useful for treating inflammatory

CC conditions.

CC Sequence 72 AA;

Query Match 100.0%; Score 99; DB 26; Length 72;
Best Local Similarity 100.0%; Pred. No. 7.23e-03;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 48 elcldpkenwvq 59
|||||
QY 1 ELCLDPKENWVQ 12

RESULT 13
ID W25713 standard; protein; 72 AA.
AC W25713;
DT 17-OCT-1997 (first entry)
DE Mutant human IL-8, F21N.
KW Interleukin-8; IL-8; IL-8 receptor-mediated biological response;
KW mutant; IL-8 receptor; overlap PCR.
OS Homo sapiens. Location/Qualifiers
FH Key misc_difference 21
FT /label= F21N
PN WO9700601-A2.
PD 09-JAN-1997.
PF 18-JUN-1996; U10537.
PR 05-APR-1996; US-628455.
PR 20-JUN-1995; US-002774.
PR 18-OCT-1995; US-005385.
PA (CHIR) CHIRON CORP.
PI Blaney J, Shyamala V, Siani M, Tekamp-Olson P;
PI Wernette-Hammond ME;
DR WPI; 97-087095/08.
PT New mutant interleukin-8 poly:peptide(s) - used for modulating
PT Interleukin-8 receptor-mediated biological responses.
PS Claim 1; Page 35; 40pp; English.
CC The sequences given in W25701-14 represent interleukin-8 (IL-8)
CC mutants which are capable of binding to IL-8 receptors. They can
CC be used for modulating an IL-8 receptor-mediated biological response.
CC The mutations were introduced into the human IL-8 coding sequence by
CC overlap PCR.
SQ Sequence 72 AA;

Query Match 100.0%; Score 99; DB 23; Length 72;
Best Local Similarity 100.0%; Pred. No. 7.23e-03;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 48 elcldpkenwvq 59
|||||
QY 1 ELCLDPKENWVQ 12

RESULT 14
ID W25708 standard; protein; 72 AA.
AC W25708;
DT 17-OCT-1997 (first entry)
DE Mutant human IL-8, S14Q.
KW Interleukin-8; IL-8; IL-8 receptor-mediated biological response;
KW mutant; IL-8 receptor; overlap PCR.
OS Homo sapiens. Location/Qualifiers
FH Key misc_difference 14
FT /label= S14Q
PN WO9700601-A2.
PD 09-JAN-1997.
PF 18-JUN-1996; U10537.
PR 05-APR-1996; US-628455.
PR 20-JUN-1995; US-002774.
PR 18-OCT-1995; US-005385.
PA (CHIR) CHIRON CORP.
PI Blaney J, Shyamala V, Siani M, Tekamp-Olson P;
PI Wernette-Hammond ME;
DR WPI; 97-087095/08.
PT New mutant interleukin-8 poly:peptide(s) - used for modulating
PT Interleukin-8 receptor-mediated biological responses.

PS Claim 1; Page 35; 40pp; English.
CC The sequences given in W25701-14 represent interleukin-8 (IL-8)
CC mutants which are capable of binding to IL-8 receptors. They can
CC be used for modulating an IL-8 receptor-mediated biological response.
CC The mutations were introduced into the human IL-8 coding sequence by
CC overlap PCR.
SQ Sequence 72 AA;

Query Match 100.0%; Score 99; DB 23; Length 72;
Best Local Similarity 100.0%; Pred. No. 7.23e-03;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

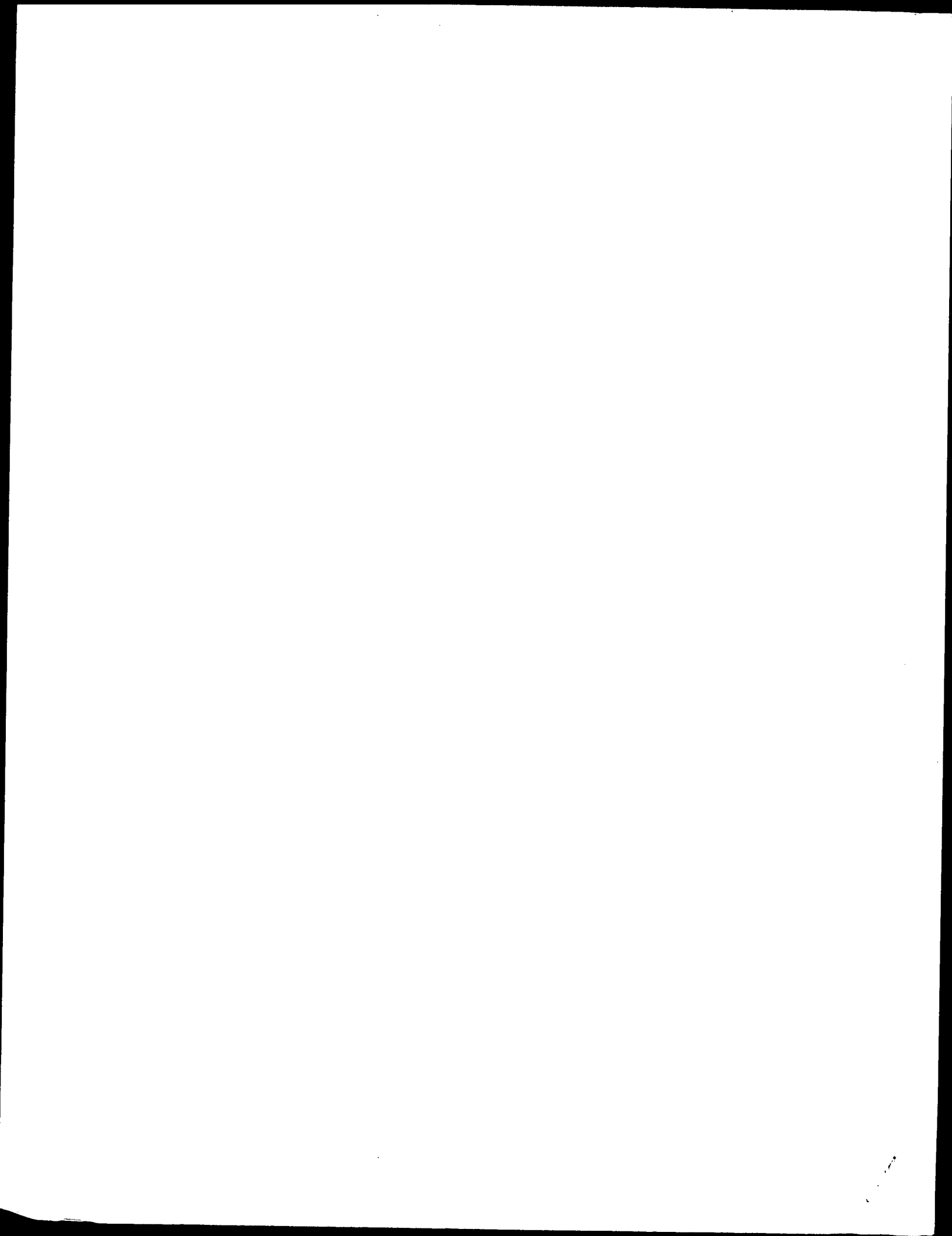
Db 48 elcldpkenwvq 59
|||||
QY 1 ELCLDPKENWVQ 12

RESULT 15
ID W25710 standard; protein; 72 AA.
AC W25710;
DT 17-OCT-1997 (first entry)
DE Mutant human IL-8, D45R.
KW Interleukin-8; IL-8; IL-8 receptor-mediated biological response;
KW mutant; IL-8 receptor; overlap PCR.
OS Homo sapiens. Location/Qualifiers
FH Key misc_difference 45
FT /label= D45R
PN WO9700601-A2.
PD 09-JAN-1997.
PF 18-JUN-1996; U10537.
PR 05-APR-1996; US-628455.
PR 20-JUN-1995; US-002774.
PR 18-OCT-1995; US-005385.
PA (CHIR) CHIRON CORP.
PI Blaney J, Shyamala V, Siani M, Tekamp-Olson P;
PI Wernette-Hammond ME;
DR WPI; 97-087095/08.
PT New mutant interleukin-8 poly:peptide(s) - used for modulating
PT Interleukin-8 receptor-mediated biological responses.
PS Claim 1; Page 35; 40pp; English.
CC The sequences given in W25701-14 represent interleukin-8 (IL-8)
CC mutants which are capable of binding to IL-8 receptors. They can
CC be used for modulating an IL-8 receptor-mediated biological response.
CC The mutations were introduced into the human IL-8 coding sequence by
CC overlap PCR.
SQ Sequence 72 AA;

Query Match 100.0%; Score 99; DB 23; Length 72;
Best Local Similarity 100.0%; Pred. No. 7.23e-03;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 48 elcldpkenwvq 59
|||||
QY 1 ELCLDPKENWVQ 12

Search completed: Fri Feb 4 17:08:32 2000
Job time : 20 secs.



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(TM)

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MPsrch_pp protein - protein database search, using Smith-Waterman algorithm

Run on: Fri Feb 4 17:15:49 2000; MasPar time 3.23 Seconds
Tabular output not generated. 105.016 Million cell updates/sec

Title: >US-09-150-813-41
Description: (1-12) from US09150813.pep
Perfect Score: 92
Sequence: 1 EICLDPEAPFLK 12

Scoring table: PAM 150
Gap 15

Searched: 77977 seqs, 28268293 residues

Post-processing: Minimum Match 0%
Listing first 45 summaries

Database: swiss-prot37
1:swissprot

Statistics: Mean 25.651; Variance 29.190; scale 0.879

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Query Match | Score | Length | ID | Description | Pred. No. |
|------------|-------------|-------|--------|----|-----------------------------------|-----------|
| 1 | 92 | 100.0 | 114 | 1 | EN78_HUMAN NEUTROPHIL ACTIVATING | 3.75e-10 |
| 2 | 87 | 94.6 | 114 | 1 | GCP2_HUMAN GRANULOCYTE CHEMOTACTI | 9.29e-09 |
| 3 | 74 | 80.4 | 175 | 1 | GCP2_BOVIN GRANULOCYTE CHEMOTACTI | 2.78e-05 |
| 4 | 70 | 76.1 | 132 | 1 | LIX_MOUSE CYTOKINE LIX PRECURSOR | 2.90e-04 |
| 5 | 67 | 72.8 | 117 | 1 | AMC2_PIG ALVEOLAR MACROPHAGE CH | 1.61e-03 |
| 6 | 66 | 71.7 | 130 | 1 | LIX_RAT CYTOKINE LIX PRECURSOR | 2.83e-03 |
| 7 | 63 | 68.5 | 100 | 1 | MIP2_RAT MACROPHAGE INFLAMMATOR | 1.49e-02 |
| 8 | 63 | 68.5 | 119 | 1 | PF4L_PIG PLATELET BASIC PROTEIN | 1.49e-02 |
| 9 | 63 | 68.5 | 1524 | 1 | V133_HUMAN HYPOTHETICAL PROTEIN K | 1.49e-02 |
| 10 | 62 | 67.4 | 98 | 1 | GROG_BOVIN GROWTH REGULATED PROTE | 2.57e-02 |
| 11 | 62 | 67.4 | 128 | 1 | PF4L_HUMAN PLATELET BASIC PROTEIN | 2.57e-02 |
| 12 | 62 | 67.4 | 225 | 1 | DEOC_SYNY3 DEOXYRIBOSE-PHOSPHATE | 2.57e-02 |
| 13 | 60 | 65.2 | 68 | 1 | M12A_RAT MACROPHAGE INFLAMMATOR | 7.50e-02 |
| 14 | 60 | 65.2 | 96 | 1 | GRO_MOUSE MACROPHAGE INFLAMMATOR | 7.50e-02 |
| 15 | 60 | 65.2 | 100 | 1 | MIP2_MOUSE MACROPHAGE INFLAMMATOR | 7.50e-02 |
| 16 | 60 | 65.2 | 104 | 1 | GROB_BOVIN GROWTH REGULATED PROTE | 7.50e-02 |
| 17 | 60 | 65.2 | 104 | 1 | GROB_BOVIN GROWTH REGULATED PROTE | 7.50e-02 |
| 18 | 60 | 65.2 | 104 | 1 | GROB_BOVIN GROWTH REGULATED PROTE | 7.50e-02 |
| 19 | 59 | 64.0 | 599 | 1 | YAQA_SCHPO GROWTH REGULATED PROTE | 2.14e-01 |
| 20 | 58 | 63.0 | 96 | 1 | GRO_RAT GROWTH REGULATED PROTE | 2.14e-01 |
| 21 | 58 | 63.0 | 104 | 1 | GRO_CAVPO GROWTH REGULATED PROTE | 2.14e-01 |
| 22 | 58 | 63.0 | 104 | 1 | GRO2_RABIT GROWTH REGULATED PROTE | 2.14e-01 |
| 23 | 58 | 63.0 | 111 | 1 | Y06R_BPT4 HYPOTHETICAL 13.1 KD P | 2.14e-01 |

| | | | | | | |
|----|----|------|------|---|-----------------------------------|----------|
| 24 | 57 | 62.0 | 103 | 1 | EMFL_CHICK EMBRYO FIBROBLAST PROT | 3.59e-01 |
| 25 | 57 | 62.0 | 167 | 1 | NS3_SIDEV PROBABLE NONSTRUCTURAL | 3.59e-01 |
| 26 | 57 | 62.0 | 310 | 1 | RFAD_SALTY ADP-L-GLYCERO-D-MANNO- | 3.59e-01 |
| 27 | 57 | 62.0 | 310 | 1 | RFAD_ECOLI ADP-L-GLYCERO-D-MANNO- | 3.59e-01 |
| 28 | 56 | 60.9 | 277 | 1 | PHOSYSTEM II MANGANE | 5.97e-01 |
| 29 | 56 | 60.9 | 1459 | 1 | PROCOLLAGEN ALPHA 1(I) | 5.97e-01 |
| 30 | 55 | 59.8 | 101 | 1 | GRO_CRIGR GROWTH REGULATED PROTE | 9.87e-01 |
| 31 | 55 | 59.8 | 219 | 1 | DEOC_AQUAE DEOXYRIBOSE-PHOSPHATE | 9.87e-01 |
| 32 | 54 | 58.7 | 402 | 1 | YXAH_BACSU HYPOTHETICAL 46.2 KD P | 1.62e+00 |
| 33 | 53 | 57.6 | 181 | 1 | YIEP_ECOLI HYPOTHETICAL 20.8 KD P | 2.65e+00 |
| 34 | 53 | 57.6 | 1001 | 1 | DIS3_YEAST DIS3 PROTEIN | 2.65e+00 |
| 35 | 52 | 56.5 | 273 | 1 | PSBO_ANASP PHOTOSYSTEM II MANGANE | 4.29e+00 |
| 36 | 52 | 56.5 | 730 | 1 | CADF_MOUSE MUSCLE-CADHERIN PRECUR | 4.29e+00 |
| 37 | 52 | 56.5 | 814 | 1 | CADF_HUMAN MUSCLE-CADHERIN PRECUR | 4.29e+00 |
| 38 | 52 | 56.5 | 1139 | 1 | MA2X_HUMAN ALPHA-MANNOSIDASE IIX | 4.29e+00 |
| 39 | 51 | 55.4 | 101 | 1 | IL8_CERTO INTERLEUKIN-8 PRECURSO | 6.91e+00 |
| 40 | 51 | 55.4 | 101 | 1 | IL8_MACMU INTERLEUKIN-8 PRECURSO | 6.91e+00 |
| 41 | 51 | 55.4 | 107 | 1 | GRO_HUMAN GROWTH REGULATED PROTE | 6.91e+00 |
| 42 | 51 | 55.4 | 147 | 1 | YBAK_BACSU HYPOTHETICAL 17.6 KD P | 6.91e+00 |
| 43 | 51 | 55.4 | 308 | 1 | RFAD_HAEIN ADP-L-GLYCERO-D-MANNO- | 6.91e+00 |
| 44 | 50 | 54.3 | 85 | 1 | PLF4_SHEEP PLATELET FACTOR 4 (PF- | 1.10e+01 |
| 45 | 50 | 54.3 | 1187 | 1 | TYK2_HUMAN NON-RECEPTOR TYROSINE- | 1.10e+01 |

ALIGNMENTS

| RESULT | ID | EN78_HUMAN | STANDARD; | PRT; | 114 AA. |
|--------|--|-----------------------------------|-----------|------|---------|
| AC | P42830; | | | | |
| DT | 01-NOV-1995 | (REL. 32, CREATED) | | | |
| DT | 01-NOV-1995 | (REL. 32, LAST SEQUENCE UPDATE) | | | |
| DT | 01-NOV-1997 | (REL. 35, LAST ANNOTATION UPDATE) | | | |
| DE | NEUTROPHIL ACTIVATING PROTEIN ENA-78 | PRECURSOR. | | | |
| GN | SCYB5 OR ENA78. | | | | |
| OS | HOMO SAPIENS (HUMAN). | | | | |
| OC | EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; | | | | |
| OC | PRIMATES; CATARRHINI; HOMINIDAE; HOMO. | | | | |
| RN | SEQUENCE FROM N.A. | | | | |
| RP | MEDLINE; 95129887. | | | | |
| RA | POWER C.A., FURNES R.B., BRAWAND C., WELLS T.N.C.; | | | | |
| RT | "Cloning of a full-length cDNA encoding the neutrophil-activating | | | | |
| RT | peptide ENA-78 from human platelets." | | | | |
| RL | GENE 151:333-334(1994). | | | | |
| RN | SEQUENCE FROM N.A. | | | | |
| RP | MEDLINE; 95014315. | | | | |
| RA | CHANG M.S., MCNINCH J., BASU R., SIMONET S.; | | | | |
| RT | "Cloning and characterization of the human neutrophil-activating | | | | |
| RT | peptide (ENA-78) gene." | | | | |
| RL | J. BIOL. CHEM. 269:25277-25282(1994). | | | | |
| RN | SEQUENCE FROM N.A. | | | | |
| RP | MEDLINE; 95091791. | | | | |
| RA | CORRETT M.S., SCHMITT I., RIESS O., WALZ A.; | | | | |
| RT | "Characterization of the gene for human neutrophil-activating peptide | | | | |
| RT | 78 (ENA-78)." | | | | |
| RL | BIOCHEM. BIOPHYS. RES. COMMUN. 205:612-617(1994). | | | | |
| RN | SEQUENCE OF 43-114 FROM N.A. | | | | |
| RP | TISSUE-EPITHELIIUM; | | | | |
| RA | WALZ A., BURGNER R., CAR B., BAGGIOLINI M., KUNKEL S.L., | | | | |
| RT | "Structure and neutrophil-activating properties of a novel | | | | |
| RT | inflammatory peptide (ENA-78) with homology to interleukin 8." | | | | |
| RL | J. EXP. MED. 174:1355-1362(1991). | | | | |
| CC | FUNCTION: INVOLVED IN NEUTROPHIL ACTIVATION. | | | | |
| CC | SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE | | | | |
| CC | C-X-C) (CHEMOKINE CXC). | | | | |
| CC | ----- | | | | |
| CC | This SWISS-PROT entry is copyright. It is produced through a collaboration | | | | |
| CC | between the Swiss Institute of Bioinformatics and the EMBL outstation | | | | |

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DR EMBL; X78686; G471243; -;
 DR EMBL; L37036; G607031; -;
 DR EMBL; U12709; G684922; -;
 DR MIM; 600324; -;
 DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
 DR PFAM; PF00048; i18; 1.
 DR HSSP; P02775; INAP.
 KW CYTOKINE; SIGNAL.
 FT SIGNAL 1 ? POTENTIAL.
 FT CHAIN ? 114 NEUTROPHIL ACTIVATING PROTEIN ENA-78.
 FT DISULFID 49 75 BY SIMILARITY.
 FT DISULFID 51 91 BY SIMILARITY.
 SQ SEQUENCE 114 AA; 11972 MW; 390290D2 CRC32;

Query Match 100.0%; Score 92; DB 1; Length 114;
 Best Local Similarity 100.0%; Pred. No. 3.75e-10;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 89 EICLDPPEAPFLK 100
 |||||
 QY 1 EICLDPPEAPFLK 12

RESULT 2
 ID GCP2_HUMAN STANDARD; PRT; 114 AA.
 AC P80162;
 DT 01-APR-1993 (REL. 25, CREATED)
 DT 15-JUL-1998 (REL. 36, LAST SEQUENCE UPDATE)
 DE GRANULOCYTE CHEMOTACTIC PROTEIN 2 PRECURSOR (GCP-2).
 GN SCYB6 OR GCP2.
 OS HOMO SAPIENS (HUMAN).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 CC PRIMATES; CATARRHINI; HOMINIDAE; HOMO.
 RN [1]
 RP SEQUENCE FROM N.A.
 RA ROYAL L.E., HERSCHMAN H.R., SMITH J.B.;
 RL SUBMITTED (APR-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [2]
 RP SEQUENCE OF 38-114 FROM N.A.
 RA FROYEN G., PROOST P., RONASE I., MITERA T., HAELENS A., WUYTS A.,
 RA OPDENAKKER G., VAN DAMME J., BILLIAU A.;
 RL SUBMITTED (JAN-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [3]
 RP SEQUENCE OF 38-112.
 RA TISSUE-OSTEOSARCOMA;
 RC MEDLINE; 94001982.
 RX PROOST P., WUYTS A., CONINGS R., LENAERTS J.-P., BILLIAU A.,
 RA OPDENAKKER G., VAN DAMME J.;
 RT "Human and bovine granulocyte chemotactic protein-2: complete amino
 FT acid sequence and functional characterization as chemokines.";
 RL BIOCHEMISTRY 32:10170-10177(1993).
 RN [4]

RP SEQUENCE OF 38-57.
 RC TISSUE-OSTEOSARCOMA;
 RX MEDLINE; 93139489.
 RA PROOST P., DE WOLF-PETERS C., CONINGS R., OPDENAKKER G., BILLIAU A.,
 RA VAN DAMME J.;

RT "Identification of a novel granulocyte chemotactic protein (GCP-2)
 RT from human tumor cells. In vitro and in vivo comparison with natural
 RT forms of GRO, IP-10, and IL-8";
 RL J. IMMUNOL. 150:1000-1010(1993).
 CC -1- FUNCTION: CHEMOTACTIC FOR NEUTROPHIL GRANULOCYTES.
 CC -1- SUBCELLULAR LOCATION: SECRETED.
 CC -1- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
 CC C-X-C) (CHEMOKINE CXC).

Query Match 100.0%; Score 92; DB 1; Length 114;
 Best Local Similarity 100.0%; Pred. No. 3.75e-10;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 89 EICLDPPEAPFLK 100
 |||||
 QY 1 EICLDPPEAPFLK 12

RESULT 2
 ID GCP2_BOVIN STANDARD; PRT; 75 AA.
 AC P80221;
 DT 01-FEB-1994 (REL. 28, CREATED)
 DT 01-FEB-1994 (REL. 28, LAST SEQUENCE UPDATE)
 DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
 DE GRANULOCYTE CHEMOTACTIC PROTEIN 2 (GCP-2).
 GN SCYB6 OR GCP2.
 OS BOS TAURUS (BOVINE).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 CC ARTIODACTYLA; RUMINANTIA; PECORA; BOVIDAE; BOVINAE; BOS.
 RN [1]
 RP SEQUENCE.
 RC TISSUE-KIDNEY;
 RX MEDLINE; 94001982.
 RA PROOST P., WUYTS A., CONINGS R., LENAERTS J.-P., BILLIAU A.,
 RA OPDENAKKER G., VAN DAMME J.;

RT "Human and bovine granulocyte chemotactic protein-2: complete amino
 FT acid sequence and functional characterization as chemokines.";
 RL BIOCHEMISTRY 32:10170-10177(1993).
 CC -1- FUNCTION: CHEMOTACTIC FOR NEUTROPHIL GRANULOCYTES.
 CC -1- SUBCELLULAR LOCATION: SECRETED.
 CC -1- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
 CC C-X-C) (CHEMOKINE CXC).

Query Match 80.4%; Score 74; DB 1; Length 75;
 Best Local Similarity 75.0%; Pred. No. 2.78e-05;

Db 89 QVCLDPEAPFLK 100
 ::|||
 QY 1 EICLDPPEAPFLK 12

RESULT 3
 ID GCP2_BOVIN STANDARD; PRT; 75 AA.
 AC P80221;
 DT 01-FEB-1994 (REL. 28, CREATED)
 DT 01-FEB-1994 (REL. 28, LAST SEQUENCE UPDATE)
 DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
 DE GRANULOCYTE CHEMOTACTIC PROTEIN 2 (GCP-2).
 GN SCYB6 OR GCP2.
 OS BOS TAURUS (BOVINE).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 CC ARTIODACTYLA; RUMINANTIA; PECORA; BOVIDAE; BOVINAE; BOS.
 RN [1]
 RP SEQUENCE.
 RC TISSUE-KIDNEY;
 RX MEDLINE; 94001982.
 RA PROOST P., WUYTS A., CONINGS R., LENAERTS J.-P., BILLIAU A.,
 RA OPDENAKKER G., VAN DAMME J.;

RT "Human and bovine granulocyte chemotactic protein-2: complete amino
 FT acid sequence and functional characterization as chemokines.";
 RL BIOCHEMISTRY 32:10170-10177(1993).
 CC -1- FUNCTION: CHEMOTACTIC FOR NEUTROPHIL GRANULOCYTES.
 CC -1- SUBCELLULAR LOCATION: SECRETED.
 CC -1- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
 CC C-X-C) (CHEMOKINE CXC).

Query Match 80.4%; Score 74; DB 1; Length 75;
 Best Local Similarity 75.0%; Pred. No. 2.78e-05;

Db 89 QVCLDPEAPFLK 100
 ::|||
 QY 1 EICLDPPEAPFLK 12

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 CC or send an email to license@isb-sib.ch).

DR EMBL; U83303; G1916230; -;
 DR EMBL; Y08770; E283124; -;
 DR PIR; A54188; A54188.
 DR MIM; 138965; -;
 DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
 DR PFAM; PF00048; i18; 1.
 DR HSSP; P10889; IMI2.
 KW CYTOKINE; CHEMOTAXIS; HEPARIN-BINDING; SIGNAL.
 FT SIGNAL 1 37 POTENTIAL.
 FT CHAIN 38 114 GRANULOCYTE CHEMOTACTIC PROTEIN 2.
 FT VARIANT 38 39 MISSING (N-TERMINAL PROCESSING VARIANT).
 FT VARIANT 38 42 MISSING (N-TERMINAL PROCESSING VARIANT).
 FT VARIANT 38 45 MISSING (N-TERMINAL PROCESSING VARIANT).
 FT DISULFID 49 75 BY SIMILARITY.
 FT DISULFID 51 91 BY SIMILARITY.
 SQ SEQUENCE 114 AA; 11897 MW; 4AC10E5C CRC32;

Query Match 94.6%; Score 87; DB 1; Length 114;
 Best Local Similarity 83.3%; Pred. No. 9.29e-09;
 Matches 10; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Db 89 QVCLDPEAPFLK 100
 ::|||
 QY 1 EICLDPPEAPFLK 12

RESULT 3
 ID GCP2_BOVIN STANDARD; PRT; 75 AA.
 AC P80221;
 DT 01-FEB-1994 (REL. 28, CREATED)
 DT 01-FEB-1994 (REL. 28, LAST SEQUENCE UPDATE)
 DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
 DE GRANULOCYTE CHEMOTACTIC PROTEIN 2 (GCP-2).
 GN SCYB6 OR GCP2.
 OS BOS TAURUS (BOVINE).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 CC ARTIODACTYLA; RUMINANTIA; PECORA; BOVIDAE; BOVINAE; BOS.
 RN [1]
 RP SEQUENCE.
 RC TISSUE-KIDNEY;
 RX MEDLINE; 94001982.
 RA PROOST P., WUYTS A., CONINGS R., LENAERTS J.-P., BILLIAU A.,
 RA OPDENAKKER G., VAN DAMME J.;

RT "Human and bovine granulocyte chemotactic protein-2: complete amino
 FT acid sequence and functional characterization as chemokines.";
 RL BIOCHEMISTRY 32:10170-10177(1993).
 CC -1- FUNCTION: CHEMOTACTIC FOR NEUTROPHIL GRANULOCYTES.
 CC -1- SUBCELLULAR LOCATION: SECRETED.
 CC -1- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
 CC C-X-C) (CHEMOKINE CXC).

Query Match 80.4%; Score 74; DB 1; Length 75;
 Best Local Similarity 75.0%; Pred. No. 2.78e-05;

Db 89 QVCLDPEAPFLK 100
 ::|||
 QY 1 EICLDPPEAPFLK 12

RESULT 3
 ID GCP2_BOVIN STANDARD; PRT; 75 AA.
 AC P80221;
 DT 01-FEB-1994 (REL. 28, CREATED)
 DT 01-FEB-1994 (REL. 28, LAST SEQUENCE UPDATE)
 DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
 DE GRANULOCYTE CHEMOTACTIC PROTEIN 2 (GCP-2).
 GN SCYB6 OR GCP2.
 OS BOS TAURUS (BOVINE).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 CC ARTIODACTYLA; RUMINANTIA; PECORA; BOVIDAE; BOVINAE; BOS.
 RN [1]
 RP SEQUENCE.
 RC TISSUE-KIDNEY;
 RX MEDLINE; 94001982.
 RA PROOST P., WUYTS A., CONINGS R., LENAERTS J.-P., BILLIAU A.,
 RA OPDENAKKER G., VAN DAMME J.;

RT "Human and bovine granulocyte chemotactic protein-2: complete amino
 FT acid sequence and functional characterization as chemokines.";
 RL BIOCHEMISTRY 32:10170-10177(1993).
 CC -1- FUNCTION: CHEMOTACTIC FOR NEUTROPHIL GRANULOCYTES.
 CC -1- SUBCELLULAR LOCATION: SECRETED.
 CC -1- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
 CC C-X-C) (CHEMOKINE CXC).

Query Match 80.4%; Score 74; DB 1; Length 75;
 Best Local Similarity 75.0%; Pred. No. 2.78e-05;

Db 89 QVCLDPEAPFLK 100
 ::|||
 QY 1 EICLDPPEAPFLK 12

RESULT 3
 ID GCP2_BOVIN STANDARD; PRT; 75 AA.
 AC P80221;
 DT 01-FEB-1994 (REL. 28, CREATED)
 DT 01-FEB-1994 (REL. 28, LAST SEQUENCE UPDATE)
 DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
 DE GRANULOCYTE CHEMOTACTIC PROTEIN 2 (GCP-2).
 GN SCYB6 OR GCP2.
 OS BOS TAURUS (BOVINE).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 CC ARTIODACTYLA; RUMINANTIA; PECORA; BOVIDAE; BOVINAE; BOS.
 RN [1]
 RP SEQUENCE.
 RC TISSUE-KIDNEY;
 RX MEDLINE; 94001982.
 RA PROOST P., WUYTS A., CONINGS R., LENAERTS J.-P., BILLIAU A.,
 RA OPDENAKKER G., VAN DAMME J.;

RT "Human and bovine granulocyte chemotactic protein-2: complete amino
 FT acid sequence and functional characterization as chemokines.";
 RL BIOCHEMISTRY 32:10170-10177(1993).
 CC -1- FUNCTION: CHEMOTACTIC FOR NEUTROPHIL GRANULOCYTES.
 CC -1- SUBCELLULAR LOCATION: SECRETED.
 CC -1- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
 CC C-X-C) (CHEMOKINE CXC).

Query Match 80.4%; Score 74; DB 1; Length 75;
 Best Local Similarity 75.0%; Pred. No. 2.78e-05;

Db 89 QVCLDPEAPFLK 100
 ::|||
 QY 1 EICLDPPEAPFLK 12

Sat Feb 5 15:13:56 2000

Matches 9; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

Db 52 EVCLDPEAPLIK 63
|:|||||:|
QY 1 EICLDPEAPFLK 12

RESULT 4
ID LIX_MOUSE STANDARD; PRT; 132 AA.

AC P50228;
DT 01-OCT-1996 (REL. 34, CREATED)
DT 01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)
DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
DE CYTOKINE LIX PRECURSOR.
GN SCYB5
OS MUS MUSCULUS (MOUSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; MUS.
RN [1]
RN SEQUENCE FROM N.A.
RX MEDLINE; 95348101.

RA SMITH J.B., HERSCHMAN H.R.;
RT "Glucocorticoid-attenuated response genes encode intercellular mediators, including a new C-X-C chemokine.";
RL J. BIOL. CHEM. 270:16755-16765(1995). RECRUITMENT OF INFLAMMATORY CELLS
CC -!- FUNCTION: MAY PARTICIPATE IN THE RECRUITMENT OF INFLAMMATORY CELLS
CC BY INJURED OR INFECTED TISSUE.
CC -!- INDUCTION: BY LIPOPOLYSACCHARIDE (LPS).
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE C-X-C) (CHEMOKINE CXCL).
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CC EMBL; M99368; G164326; -
CC PIR; B44253; B44253.
CC PIR; B39819; B39819.
CC PROSITE; P500471; SMALL_CYTOKINES_CXC; 1.
CC PFAM; PF00048; i18; 1.
CC HSSP; P02775; 1NAP.
CC CYTOKINE; SIGNAL.
FT CHAIN 1 40 POTENTIAL.
FT CHAIN 41 132 CYTOKINE LIX.
FT DISULFID 53 79 BY SIMILARITY.
FT DISULFID 55 95 BY SIMILARITY.
SQ SEQUENCE 132 AA; 14190 MW; 58G45B6B CRC32;

Query Match 76.18; Score 70; DB 1; Length 132;
Best Local Similarity 75.08; Pred. No. 2.90e+04;
Matches 9; Conservative 2; Mismatches 1; Indels 0; Gaps 0;
Db 93 EVCLDPEAPVIX 104
|:|||||:|
QY 1 EICLDPEAPFLK 12

RESULT 5
ID AMC2.PIG STANDARD; PRT; 117 AA.
AC P22952;
DT 01-AUG-1991 (REL. 19, CREATED)
DT 01-JUL-1993 (REL. 26, LAST SEQUENCE UPDATE)
DT 01-JUL-1993 (REL. 26, LAST ANNOTATION UPDATE)
DE ALVEOLAR MACROPHAGE CHEMOTACTIC FACTOR II PRECURSOR (AMCF-II).
OS SUS SCROFA (PIG).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC ARTIODACTYLA; SUIFORMES; SUINA; SUIDAE; SUS.
RN [1]
RN SEQUENCE FROM N.A., AND SEQUENCE OF 37-66.
RC TISSUE-LUNG;

Query Match 76.18; Score 70; DB 1; Length 132;
Best Local Similarity 75.08; Pred. No. 2.90e+04;
Matches 9; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 93 EVCLDPEAPVIX 104
|:|||||:|
QY 1 EICLDPEAPFLK 12

RESULT 5
ID AMC2.PIG STANDARD; PRT; 117 AA.
AC P22952;
DT 01-AUG-1991 (REL. 19, CREATED)
DT 01-JUL-1993 (REL. 26, LAST SEQUENCE UPDATE)
DT 01-JUL-1993 (REL. 26, LAST ANNOTATION UPDATE)
DE ALVEOLAR MACROPHAGE CHEMOTACTIC FACTOR II PRECURSOR (AMCF-II).
OS SUS SCROFA (PIG).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC ARTIODACTYLA; SUIFORMES; SUINA; SUIDAE; SUS.
RN [1]
RN SEQUENCE FROM N.A., AND SEQUENCE OF 37-66.
RC TISSUE-LUNG;

RA MEDLINE; 930411741.
RA GOODMAN R.B., FOSTER D.C., MATHEWS S.L., OSBORN S.G., KUIJPER J.L.,
RA FORSTROM J.W., MARTIN T.R.;
RT "Molecular cloning of porcine alveolar macrophage-derived neutrophil chemotactic factors I and II: Identification of porcine IL-8 and another intercrine-alpha protein.";
RL BIOCHEMISTRY 31:10483-10490(1992).
RN [2]
RN SEQUENCE OF 37-66.
RC STRAIN=YORKSHIRE;
RX MEDLINE; 91217086.
RA GOODMAN R.B., FORSTROM J.W., OSBORN S.G., CHI E.Y., MARTIN T.R.;
RT "Identification of two neutrophil chemotactic peptides produced by porcine alveolar macrophages.";
RL J. BIOL. CHEM. 266:8455-8463(1991).
CC -!- FUNCTION: HAS CHEMOTACTIC ACTIVITY FOR PORCINE, AND IN A LESSER EXTENT, FOR HUMAN NEUTROPHILS.
CC -!- TISSUE SPECIFICITY: ALVEOLAR MACROPHAGES.
CC -!- INDUCTION: BY LIPOPOLYSACCHARIDE.
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE C-X-C) (CHEMOKINE CXCL).
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CC EMBL; M99368; G164326; -
CC PIR; B44253; B44253.
CC PIR; B39819; B39819.
CC PROSITE; P500471; SMALL_CYTOKINES_CXC; 1.
CC PFAM; PF00048; i18; 1.
CC HSSP; P02775; 1NAP.
CC CYTOKINE; CHEMOTACTIS; INFLAMMATORY RESPONSE; SIGNAL.
FT SIGNAL 1 36
FT CHAIN 37 117 ALVEOLAR MACROPHAGE CHEMOTACTIC FACTOR II.
FT DISULFID 52 78 BY SIMILARITY.
FT DISULFID 54 94 BY SIMILARITY.
SQ SEQUENCE 117 AA; 12343 MW; 9C31EF8E CRC32;

Query Match 72.88; Score 67; DB 1; Length 117;
Best Local Similarity 66.78; Pred. No. 1.61e+03;
Matches 8; Conservative 3; Mismatches 1; Indels 0; Gaps 0;
Db 92 EVCLDPEAPLIK 103
|:|||||:|
QY 1 EICLDPEAPFLK 12

RESULT 6
ID LIX_RAT STANDARD; PRT; 130 AA.
AC P97885;
DT 01-NOV-1997 (REL. 35, CREATED)
DT 01-NOV-1997 (REL. 35, LAST SEQUENCE UPDATE)
DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
DE CYTOKINE LIX PRECURSOR.
GN SCYB5.
OS RATTUS NORVEGICUS (RAT).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; RATTUS.
RN [1]
RN SEQUENCE FROM N.A.
RC STRAIN=SPRAGUE-DAWLEY;
RA KELLNER G.S., MACIEJEWSKI-LENOIR D., LEE E.D., MAKI R.A.;
RL SUBMITTED (FEB-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
CC -!- FUNCTION: MAY PARTICIPATE IN THE RECRUITMENT OF INFLAMMATORY CELLS BY INJURED OR INFECTED TISSUE (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE C-X-C) (CHEMOKINE CXCL).

Query Match 72.88; Score 67; DB 1; Length 117;
Best Local Similarity 66.78; Pred. No. 1.61e+03;
Matches 8; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

Db 92 EVCLDPEAPLIK 103
|:|||||:|
QY 1 EICLDPEAPFLK 12

RESULT 6
ID LIX_RAT STANDARD; PRT; 130 AA.
AC P97885;
DT 01-NOV-1997 (REL. 35, CREATED)
DT 01-NOV-1997 (REL. 35, LAST SEQUENCE UPDATE)
DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
DE CYTOKINE LIX PRECURSOR.
GN SCYB5.
OS RATTUS NORVEGICUS (RAT).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; RATTUS.
RN [1]
RN SEQUENCE FROM N.A.
RC STRAIN=SPRAGUE-DAWLEY;
RA KELLNER G.S., MACIEJEWSKI-LENOIR D., LEE E.D., MAKI R.A.;
RL SUBMITTED (FEB-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
CC -!- FUNCTION: MAY PARTICIPATE IN THE RECRUITMENT OF INFLAMMATORY CELLS BY INJURED OR INFECTED TISSUE (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE C-X-C) (CHEMOKINE CXCL).

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 CC or send an email to license@isb-sib.ch).

DR EMBL; U90448; G1899248; -
 DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
 DR PFAM; PF00048; 118; 1.
 DR HSSP; P10889; 1MI2.
 KW CYTOKINE; SIGNAL.
 FT SIGNAL 1 37 POTENTIAL.
 FT CHAIN 38 130 CYTOKINE LIX.
 FT DISULFID 50 76 BY SIMILARITY.
 FT DISULFID 52 93 BY SIMILARITY.
 SQ SEQUENCE 130 AA; 14263 MW; 5f6C874C CRC32;

Query Match 71.7%; Score 66; DB 1; Length 130;
 Best Local Similarity 58.3%; Pred. No. 2.83e-03;
 Matches 7; Conservative 5; Mismatches 0; Indels 0; Gaps 0;

Db 91 NVCLDPOAPLIK 102

QY 1 EICLDPEAPFLK 12

RESULT 7
 ID MIP2-RAT STANDARD; PRT; 100 AA.
 AC P30348;
 DT 01-APR-1993 (REL. 25, CREATED)
 DT 01-APR-1993 (REL. 25, LAST SEQUENCE UPDATE)
 DT 01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)
 DE MACROPHAGE INFLAMMATORY PROTEIN 2 PRECURSOR (MIP2) (CINC-3).
 GN MIP2 OR MIP-2.
 OS RATTUS NORVEGICUS (RAT).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC RODENTIA; SCIROGNATHI; MURIDAE; MURINAE; RATTUS.
 [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN-FISHER; TISSUE=LUNG;
 RA DRISCOLL K.;
 RL SUBMITTED (APR-1992) TO EMBL/GENBANK/DBJ DATA BANKS.
 [2]
 RP SEQUENCE FROM N.A.
 RC STRAIN-FISHER;
 RX MEDLINE; 95189993.
 RA FENG L., XIA Y., YOSHIMURA T., WILSON C.B.;
 RT "Modulation of neutrophil influx in glomerulonephritis in the rat
 RT with anti-macrophage inflammatory protein-2 (MIP-2) antibody.";
 RL J. CLIN. INVEST. 95:1009-1017(1995).
 [3]

RP SEQUENCE FROM N.A.
 RC STRAIN=CD; TISSUE=LUNG;
 RA FARONE A., FARONE M., SHI M.M., KOBZIK L., PAULASKIS J.D.;
 RL SUBMITTED (MAR-1996) TO EMBL/GENBANK/DBJ DATA BANKS.
 [4]
 RP SEQUENCE OF 39-91 FROM N.A.
 RC STRAIN=CD-1; TISSUE=LUNG;
 RX MEDLINE; 93035653.
 RA HUANG S., PAULASKIS J.D., GODLESKI J.J., KOBZIK L.;
 RT "Expression of macrophage inflammatory protein-2 and KC mRNA in
 RT pulmonary inflammation.";
 RL AM. J. PATHOL. 141:981-988(1992).
 [5]

RP SEQUENCE OF 32-100.
 RC STRAIN=WISTAR;
 RX MEDLINE; 94318061.
 RA NAKAGAWA H., KOMORITA N., SHIBATA F., IKESUE A., KONISHI K.,
 RA FUJIOKA M., KATO H.;
 RT "Identification of cytokine-induced neutrophil chemoattractants

RT (CINC), rat GRO/CINC-2 alpha and CINC-2 beta, produced by granulation
 RT tissue in culture: purification, complete amino acid sequences and
 RT characterization.";
 RL BIOCHEM. J. 301:545-550(1994).
 [6]

RN SEQUENCE OF 32-59.
 RC STRAIN=WISTAR;
 RX MEDLINE; 96183056.
 RA NAKAGAWA H., SHIOTA S., TAKANO K., SHIBATA F., KATO H.;
 RT "Cytokine-induced neutrophil chemoattractant (CINC)-2 alpha, a novel
 RT member of rat GRO/CINC's, is a predominant chemokine produced by
 RT lipopolysaccharide-stimulated rat macrophages in culture.";
 RL BIOCHEM. BIOPHYS. RES. COMMUN. 220:945-948(1996).
 CC -!- FUNCTION: CHEMOTACTIC FOR HUMAN POLYMORPHONUCLEAR LEUKOCYTES BUT
 CC DOES NOT INDUCE CHEMOKINESIS OR AN OXIDATIVE BURST. CONTRIBUTES TO
 CC NEUTROPHIL ACTIVATION DURING INFLAMMATION.
 CC -!- SUBUNIT: HOMOTETRAMER.
 CC -!- TISSUE SPECIFICITY: AT LEAST EXPRESSED IN THE LUNG AND TRACHEA.
 CC -!- INDUCTION: IN LUNG, BY LIPOPOLYSACCHARIDE OR INFLAMMATION.
 CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
 CC C-X-C) (CHEMOKINE CXC).

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DR EMBL; X65647; G56666; -
 DR EMBL; S77604; G998407; -
 DR EMBL; U45965; G1228141; -
 DR EMBL; S45855; E62497; -
 DR PIR; S21467; S21467.
 DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
 DR PFAM; PF00048; 118; 1.
 DR HSSP; P10889; 1MI2.
 KW CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.
 FT SIGNAL 1 31
 FT CHAIN 32 100 MACROPHAGE INFLAMMATORY PROTEIN 2.
 FT DISULFID 36 62 BY SIMILARITY.
 FT DISULFID 38 78 BY SIMILARITY.
 SQ SEQUENCE 100 AA; 10783 MW; 1AE9A34E CRC32;

Query Match 68.5%; Score 63; DB 1; Length 100;
 Best Local Similarity 63.6%; Pred. No. 1.49e-02;
 Matches 7; Conservative 4; Mismatches 0; Indels 0; Gaps 0;

Db 76 EVCLEAPPLV 86

QY 1 EICLDPEAPFL 11

RESULT 8
 ID PF4LPIG STANDARD; PRT; 119 AA.
 AC P43030;
 DT 01-NOV-1995 (REL. 32, CREATED)
 DT 01-NOV-1995 (REL. 32, LAST SEQUENCE UPDATE)
 DT 01-NOV-1997 (REL. 35, LAST ANNOTATION UPDATE)
 DE PLATELET BASIC PROTEIN PRECURSOR (PBP).
 GN PBPB.

OS SUS SCROFA (PIG).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC ARTIODACTYLA; SUIFORMES; SUINA; SUIDAE; SUS.
 [1]
 RP SEQUENCE FROM N.A., AND SEQUENCE OF 40-119.
 RC TISSUE=PLATELET;
 RX MEDLINE; 94229068.

RA POWER C.A., PROUDFOOT A.E.I., MAGNENAT E., BACON K., WELLS T.N.C.;
 RT "Molecular cloning and characterisation of a neutrophil chemotactic
 RT protein from porcine platelets.";
 RL EUR. J. BIOCHEM. 221:713-719(1994).

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FT TRANSMEM 906 926 POTENTIAL.
FT TRANSMEM 993 1013 POTENTIAL.
FT TRANSMEM 1150 1170 POTENTIAL.
FT TRANSMEM 1310 1330 POTENTIAL.
FT TRANSMEM 1335 1355 POTENTIAL.
FT TRANSMEM 1462 1482 POTENTIAL.
FT SEQUENCE 1524 AA; 170569 MW; E074D413 CRC32;

Query Match 68.5%; Score 63; DB 1; Length 1524;
Best Local Similarity 33.3%; Pred. No. 1.49e-02; Indels 0; Gaps 0;
Matches 4; Conservative

Db 1479 DICIEPDVQFLR 1490
      :|:|:|:|:|
QY 1 EICLDPEAPFLK 12

RESULT 10
ID GROG_BOVIN STANDARD; PRT; 98 AA.
AC Q46675;
DT 15-DEC-1998 (REL. 37, CREATED)
DT 15-DEC-1998 (REL. 37, LAST SEQUENCE UPDATE)
DT 15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)
DE GROWTH REGULATED PROTEIN HOMOLOG GAMMA PRECURSOR (GRO-GAMMA)..
OS BOS TAURUS (BOVINE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC ARTIODACTYLA; RUMINANTIA; PECORA; BOVIDAE; BOVINAE; BOS.
CC [1]
CC SEQUENCE FROM N.A.
CC YOSHIMURA T., MODI W.S.;
CC SUBMITTED (MAR-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
CC -1- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
CC C-X-C) (CHEMOKINE CXCL).
CC -----
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CC or send an email to license@isb-sib.ch).
CC -----
CC EMBL; U95811; G2735493;
CC PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
CC CYTOKINE; GROWTH FACTOR; INFLAMMATORY RESPONSE; SIGNAL.
KW SIGNAL 1 29 POTENTIAL.
FT CHAIN 30 98 GROWTH REGULATED PROTEIN HOMOLOG GAMMA.
FT DISULFID 39 65 BY SIMILARITY.
FT DISULFID 41 81 BY SIMILARITY.
FT SEQUENCE 98 AA; 10393 MW; ECCC2B4C CRC32;

Query Match 67.4%; Score 62; DB 1; Length 98;
Best Local Similarity 58.3%; Pred. No. 2.57e-02; Indels 0; Gaps 0;
Matches 7; Conservative

Db 79 EVCNLNPAAPMKV 90
      |:|:|:|:|
QY 1 EICLDPEAPFLK 12

RESULT 11
ID PF4L_HUMAN STANDARD; PRT; 128 AA.
AC P02775;
DT 21-JUL-1986 (REL. 01, CREATED)
DT 01-NOV-1991 (REL. 20, LAST SEQUENCE UPDATE)
DT 15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)
DE PLATELET BASIC PROTEIN PRECURSOR (PBP) [CONTAINS: CONNECTIVE-TISSUE
DE ACTIVATING PEPTIDE III (CTAP-III); LOW-AFFINITY PLATELET FACTOR IV
DE (LA-PF4); BETA-THROMBOGLOBULIN (BETA-TG); NEUTROPHIL-ACTIVATING
DE PEPTIDE 2 (NAP-2)].
DE DE
GN PBP OR CTAP3 OR TGB1 OR THGB1.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;

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OC PRIMATES; CATARRHINI; HOMINIDAE; HOMO.
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 91170256.
 RA MAUMOURD S., GONDER D., KOUTSIS B., PONCZ M.;
 RT "Characterization of the human beta-thromboglobulin gene. Comparison
 RL with the gene for platelet factor 4.";
 RN J. BIOL. CHEM. 266:5785-5789(1991).
 [2]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 89229374.
 RA WENGER R.H., WICKI A.N., WALZ A., KIEFFER N., CLEMERTSON K.J.;
 RT "Cloning of cDNA coding for connective tissue activating peptide III
 RL from a human platelet-derived lambda gt10 expression library.";
 RN BLOOD 73:1498-1503(1989).
 [3]
 RP SEQUENCE OF 35-53.
 RX MEDLINE; 86216117.
 RA HOLT J.C., HARRIS M.E., HOLT A.M., LANGE E., HENSCHEN A.,
 RN LEWISAROWSKI S.;
 RT "Characterization of human platelet basic protein, a precursor form
 RL of low-affinity platelet factor 4 and beta-thromboglobulin.";
 RN BIOCHEMISTRY 25:1988-1996(1986).
 [4]
 RP SEQUENCE OF 44-66 AND 125-128.
 RX MEDLINE; 83144010.
 RA CASTOR C.W., MILLER J.W., WALZ D.A.;
 RT "Structural and biological characteristics of connective tissue
 RL activating peptide (CTAP-III), a major human platelet-derived growth
 RT factor.";
 RN PROC. NATL. ACAD. SCI. U.S.A. 80:765-769(1983).
 [5]
 RP SEQUENCE OF 48-126.
 RX MEDLINE; 78187279.
 RA BEGG G.S., PEPPER D.S., CHESTERMAN C.N., MORGAN F.J.;
 RT "Complete covalent structure of human beta-thromboglobulin.";
 RN BIOCHEMISTRY 17:1739-1744(1976).
 [6]
 RP SEQUENCE OF 59-126.
 RX MEDLINE; 89193761.
 RA WALZ A., BAGGIOLINI M.;
 RT "A novel cleavage product of beta-thromboglobulin formed in cultures
 RL of stimulated mononuclear cells activates human neutrophils.";
 RN BIOCHEM. BIOPHYS. RES. COMMUN. 159:969-981(1989).
 [7]
 RP SEQUENCE OF 57-68.
 RX MEDLINE; 89391960.
 RA CASTOR C.W., WALZ D.A., RAGSDALE C.G., HOSSLER P.A., SMITH E.M.,
 RA BIGNALL M.C., AARON B.P., MOUNTJOY K.;
 RT "Connective tissue activation. XXXIII. Biologically active cleavage
 RL products of CTAP-III from human platelets.";
 RN BIOCHEM. BIOPHYS. RES. COMMUN. 163:1071-1078(1989).
 [8]
 RP SEQUENCE OF 59-67.
 RX MEDLINE; 90155110.
 RA WALZ A., BAGGIOLINI M.;
 RT "Generation of the neutrophil-activating peptide NAP-2 from platelet
 RL basic protein or connective tissue-activating peptide III through
 RT monocyte proteases.";
 RN J. EXP. MED. 171:449-454(1990).
 [9]
 RP SYNTHESIS OF 59-126.
 RX MEDLINE; 91175767.
 RA CLARK-LEWIS I., MOSE B., WALZ A., BAGGIOLINI M., SCOTT G.J.,
 RA AEBERSOLD R.;
 RT "Chemical synthesis, purification, and characterization of two
 RL inflammatory proteins, neutrophil activating peptide 1
 RL (interleukin-8) and neutrophil activating peptide.";
 RN BIOCHEMISTRY 30:3128-3135(1991).
 [10]
 RP X-RAY CRYSTALLOGRAPHY OF 59-128.
 RX MEDLINE; 94307404.
 RA KUNGL A.J., MACHUS M., HUBER R., SCHWER C., LAM C., ASCHAUER H.,

RA EHN G., LINDLEY I.J.D., AUER M.;
 RT "Purification, crystallization and preliminary X-ray diffraction
 RT analysis of recombinant human neutrophil-activating peptide 2
 RL (rhNAP-2).";
 RN FEBS LETT. 347:300-303(1994).
 [11]
 RP X-RAY CRYSTALLOGRAPHY (1.9 ANGSTROMS) OF 59-128.
 RX MEDLINE; 95221354.
 RA MALKOWSKI M.G., WU J.Y., LAZAR J.B., JOHNSON P.H., EDWARDS B.F.P.;
 RT "The crystal structure of recombinant human neutrophil-activating
 RL peptide-2 (M6L) at 1.9-A resolution.";
 RN J. BIOL. CHEM. 270:7077-7087(1995).
 CC -1- FUNCTION: LA-PF4A STIMULATES DNA SYNTHESIS, MITOSIS, GLYCOLYSIS,
 CC INTRACELLULAR CAMP ACCUMULATION, PROSTAGLANDIN E2 SECRETION, AND
 CC SYNTHESIS OF HYALURONIC ACID AND SULFATED GLYCOSAMINOGLYCAN. IT
 CC ALSO STIMULATES THE FORMATION AND SECRETION OF PLASMINOGEN
 CC ACTIVATOR BY HUMAN SYNOCIAL CELLS. NAP-2 IS A POTENT
 CC CHEMOATTRACTANT AND ACTIVATOR FOR NEUTROPHILS.
 CC -1- SUBUNIT: BETA-THROMBOGLOBULIN IS AN HOMOTETRAMER.
 CC -1- PTM: PROTEOLYTIC REMOVAL OF RESIDUES 1-9 PRODUCES THE ACTIVE
 CC PEPTIDE CONNECTIVE-TISSUE ACTIVATING PEPTIDE III (CTAP III) (LOW-
 CC AFFINITY PLATELET FACTOR IV (LA-PF4)).
 CC -1- PTM: PROTEOLYTIC REMOVAL OF RESIDUES 1-13 PRODUCES THE ACTIVE
 CC PEPTIDE BETA-THROMBOGLOBULIN, WHICH IS RELEASED FROM PLATELETS
 CC ALONG WITH PLATELET FACTOR 4 AND PLATELET-DERIVED GROWTH FACTOR.
 CC -1- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
 CC C-X-C) (CHEMOKINE CXCL).
 CC -----
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 CC -----
 CC EMBL; M54995; G181176;
 DR PIR; A39546; TGHU.
 DR PIR; A24448; A24448.
 DR PIR; A37382; A37382.
 DR PDB; 1NAP; 19-DEC-95.
 DR PDB; 1TVX; 11-JAN-97.
 DR SWISS-2DPAGE; P02775; HUMAN.
 DR MIM; 121010;
 DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
 DR PFAM; PF00048; 118; 1.
 DR CYTOKINE; CONNECTIVE TISSUE; GROWTH FACTOR; CHEMOTAXIS; MITOGEN;
 KW PLATELET; SIGNAL; 3D-STRUCTURE.
 FT SIGNAL 1 34
 FT CHAIN 35 128 PLATELET BASIC PROTEIN (PBP).
 FT CHAIN 44 128 LA-PF4 / CTAP-III.
 FT CHAIN 48 128 BETA-THROMBOGLOBULIN.
 FT CHAIN 59 128 NAP-2.
 FT DISULFID 63 89
 FT DISULFID 65 105
 SQ SEQUENCE 128 AA; 13894 MW; 15B7D1DF CRC32;
 Query Match 67.4%; Score 62; DB 1; Length 128;
 Best Local Similarity 72.7%; Pred. No. 2.57e-02;
 Matches 8; Conservative 2; Mismatches 1; Indels 0; Gaps 0;
 Db 104 ICDPDAPIK 114
 QY 2 ICDPEAPFLK 12
 |||||:|:|
 RESULT 12
 ID DEOC-SYNY3 STANDARD; PRT; 225 AA.
 AC P73618;
 DT 15-DEC-1998 (REL. 37, CREATED)
 DT 15-DEC-1998 (REL. 37, LAST SEQUENCE UPDATE)
 DT 15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)
 DE DEOXYRIBOSE-PHOSPHATE ALDOLASE (EC 4.1.2.4) (PHOSPHODOXYRIBOALDOLASE)

CC -!- FUNCTION: PRODUCED BY ACTIVATED MONOCYTES AND NEUTROPHILS AND
 CC EXPRESSED AT SITES OF INFLAMMATION.
 CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
 CC C-X-C) (CHEMOKINE CXCL12).
 CC PROSITE: PS00471; SMALL_CYTOKINES_CXC; 1.
 DR PFAM: PF00048; 118; 1.
 DR HSP: P10889; 1M12.
 KW CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE.
 SQ SEQUENCE 68 AA; 7670 MW; 8682C815 CRC32;
 Query Match 65.28; Score 60; DB 1; Length 68;
 Best Local Similarity 63.6%; Pred. No. 7.50e-02;
 Matches 7; Conservative 3; Mismatches 1; Indels 0; Gaps 0;
 Db 45 EVCLNPOAPRL 55
 Qy 1 EICLDPEAPFL 11
 RESULT 14
 ID GRO_MOUSE STANDARD; PRT; 96 AA.
 AC P12850;
 DT 01-OCT-1989 (REL. 12, LAST SEQUENCE UPDATE)
 DT 01-OCT-1989 (REL. 12, LAST SEQUENCE UPDATE)
 DT 01-NOV-1997 (REL. 35, LAST ANNOTATION UPDATE)
 DE GROWTH REGULATED PROTEIN PRECURSOR (PLATELET-DERIVED GROWTH FACTOR-
 DE INDUCIBLE PROTEIN KC) (SECRETORY PROTEIN NS1).
 GN GRO1 OR GRO OR MGSA.
 OS MUS MUSCULUS (MOUSE).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; MUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 89139485.
 RA OQUENDO P., ALBERTA J., WEN D., GRAYCAR J.L., DERINCK R., STILES C.D.;
 RT "The platelet-derived growth factor-inducible KC gene encodes a
 RT secretory protein related to platelet alpha-granule proteins.";
 RL J. BIOL. CHEM. 264:4133-4137(1989).
 RN [2]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 89078502.
 RA RYSECK R.P., MACDONALD-BRAVO H., MATTEI M.-G., BRAVO R.;
 RT "Cloning and sequence of a secretory protein induced by growth
 RT factors in mouse fibroblasts.";
 RL EXP. CELL RES. 180:266-275(1989).
 RN [3]
 RP SEQUENCE FROM N.A.
 RX STRAIN=129/SV;
 RA BOZIC C.R., KOLAKOWSKI L.F. JR., VON UEXKULL C., GARCIA-RODRIGUEZ M.,
 RA CONKLYN M.J., BRESLOW R., SHOWELL H.J., GERARD N.P., GERARD C.;
 RL SUBMITTED (FEB-1995) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [4]
 RP SEQUENCE OF 1-10 FROM N.A.
 RX TISSUE=LIVER;
 RA OHMORI Y., FUKUMOTO S., HAMILTON T.A.;
 RT "Two structurally distinct kappa B sequence motifs cooperatively
 RT control LPS-induced KC gene transcription in mouse macrophages.";
 RL J. IMMUNOL. 155:3593-3600(1995).
 CC -!- FUNCTION: HAS CHEMOTACTIC ACTIVITY FOR NEUTROPHILS. CONTRIBUTES TO
 CC NEUTROPHIL ACTIVATION DURING INFLAMMATION (BY SIMILARITY).
 CC -!- INDUCTION: BY PLATELET-DERIVED GROWTH FACTOR. IN LUNG, BY
 CC LIPOPOLYSACCHARIDE OR INFLAMMATION (BY SIMILARITY).
 CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
 CC C-X-C) (CHEMOKINE CXCL12).
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DE (DEOXYRIBOALDOLASE).
 GN DEOC OR SLL1776.
 OS SYNECHOCYSTIS SP. (STRAIN PCC 6803).
 CC BACTERIA; CYANOBACTERIA; CHROCOCCALES; SYNECHOCYSTIS.
 RN [1]
 RN SEQUENCE FROM N.A.
 RX MEDLINE; 97061201.
 RA KANEKO T., SATO S., KOTANI H., TANAKA A., ASAMIZU E., NAKAMURA Y.,
 RA MIYAJIMA N., HIROSAWA M., SUGIURA M., SASAMOTO S., KIMURA T.,
 RA HOSOUCHI T., MATSUNO A., MURAKI A., NAKAZAKI N., NARUO K., OKUMURA S.,
 RA SHIMPO S., TAKEUCHI C., WADA T., WATANABE A., YAMADA M., YASUDA M.,
 RA TABATA S.;
 RT "Sequence analysis of the genome of the unicellular cyanobacterium
 RT Synechocystis sp. strain PCC6803. II. Sequence determination of the
 RT entire genome and assignment of potential protein-coding regions.";
 RL DNA RES. 3:109-136(1996).
 CC -!- CATALYTIC ACTIVITY: 2-DEOXY-D-RIBOSE 5-PHOSPHATE -
 CC D-GLYCERALDEHYDE 3-PHOSPHATE + ACETALDEHYDE
 CC -!- PATHWAY: NUCLEOTIDE AND DEOXYRIBONUCLEOTIDE CATABOLISM.
 CC -!- SUBCELLULAR LOCATION: CYTOPLASMIC (BY SIMILARITY).
 CC -!- SIMILARITY: BELONGS TO THE DEOXYRIBOSE-PHOSPHATE ALDOLASE FAMILY.
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 CC EMBL; D90908; G1652744; -
 DR LYASE; SCHIFF BASE.
 KW SEQUENCE 225 AA; 23874 MW; 09714B7A CRC32;
 Query Match 67.4%; Score 62; DB 1; Length 225;
 Best Local Similarity 58.3%; Pred. No. 2.57e-02;
 Matches 7; Conservative 2; Mismatches 3; Indels 0; Gaps 0;
 Db 145 EICLDGVOYLK 156
 Qy 1 EICLDPEAPFLK 12
 RESULT 13
 ID MI2A_RAT STANDARD; PRT; 68 AA.
 AC Q10746;
 DT 01-OCT-1996 (REL. 34, CREATED)
 DT 01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)
 DT 01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)
 DE MACROPHAGE INFLAMMATORY PROTEIN-2-ALPHA (MIP2-ALPHA) (CINC-2-ALPHA).
 OS RAT RATTUS NORVEGICUS (RAT).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; RATTUS.
 RN [1]
 RP SEQUENCE.
 RX STRAIN=WISTAR;
 RA NAKAGAWA H., KOMORI N., SHIBATA F., IKESUE A., KONISHI K.,
 RA FUJIOKA M., KATO H.;
 RT "Identification of cytokine-induced neutrophil chemoattractants
 RT (CINC), rat GRO/CINC-2 alpha and CINC-2 beta, produced by granulation
 RT tissue in culture: purification, complete amino acid sequences and
 RT characterization.";
 RL BIOCHEM. J. 301:545-550(1994).
 RN [2]
 RP SEQUENCE OF 1-29.
 RX STRAIN=WISTAR;
 RA NAKAGAWA H., SHIOTA S., TAKANO K., SHIBATA F., KATO H.;
 RT "Cytokine-induced neutrophil chemoattractant (CINC)-2 alpha, a novel
 RT member of rat GRO/CINCS, is a predominant chemokine produced by
 RT lipopolysaccharide-stimulated rat macrophages in culture.";
 RL BIOCHEM. BIOPHYS. RES. COMMUN. 220:945-948(1996).

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CC -----
DR EMBL: J04596; G201043; -
DR EMBL: U20634; G706843; -
DR EMBL: U20527; G706843; JOINED.
DR EMBL: S79767; E220978; -
DR PIR: A32954; A32954.
DR PIR: JH0081; JH0081.
DR MGD: MGI:108068; GRC1.
DR PROSITE: PS00471; SMALL_CYTOKINES_CXC; 1.
DR PFAM: PF00048; 118; 1.
DR HSPF: P09341; IMSH.
KW CYTOKINE; GROWTH FACTOR; INFLAMMATORY RESPONSE; SIGNAL.
FT SIGNAL 1 24 PROBABLE
FT CHAIN 25 96 GROWTH REGULATED PROTEIN.
FT DISULFID 33 59 BY SIMILARITY.
FT DISULFID 35 75 BY SIMILARITY.
SQ SEQUENCE 96 AA; 10254 MW; 36FDD348 CRC32;

Query Match 65.2%; Score 60; DB 1; Length 96;
Best Local Similarity 72.7%; Pred. No. 7.50e-02;
Matches 8; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 73 EACLDPEAPLV 83
QY 1 EICLDPEAPFL 11

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RESULT 15
ID MIP2_MOUSE STANDARD; PRT; 100 AA.
AC P10889;
DT 01-JUL-1989 (REL. 11, CREATED)
DT 01-FEB-1991 (REL. 17, LAST SEQUENCE UPDATE)
DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
DE MACROPHAGE INFLAMMATORY PROTEIN 2 PRECURSOR (MIP2).
GN MIP2 OR MIP-2.
OS MUS MUSCULUS (MOUSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC RODENTIA; SCIROGNATHI; MURIDAE; MURINAE; MUS.
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE; 90354792.
RA TEKAMP-OLSON P., GALLEGOS C., BAUER D., MCCLAIN J., SHERRY B.,
RA FABRE M., VAN DEVENTER S., CERAMI A.;
RT "Cloning and characterization of cDNAs for murine macrophage
inflammatory protein 2 and its human homologues."
RL J. EXP. MED. 172:911-919(1990).
RN [2]
RP SEQUENCE OF 28-59.
RX MEDLINE; 89098980.
RA WOLPE S.D., SHERRY B., JUERS D., DAVATELIS G., YURT R.W., CERAMI A.;
RT "Identification and characterization of macrophage inflammatory
protein 2."
RL PROC. NATL. ACAD. SCI. U.S.A. 86:612-616(1989).
RN [3]
RP STRUCTURE BY NMR.
RX MEDLINE; 98285538.
RA SHAO W., JERVA L.F., WEST J., LOLIS E., SCHWEITZER B.I.;
RT "Solution structure of murine macrophage inflammatory protein-2."
RL BIOCHEMISTRY 37:8303-8313(1998).
CC -1- FUNCTION: CHEMOTACTIC FOR HUMAN POLYMORPHONUCLEAR LEUKOCYTES BUT
CC DOES NOT INDUCE CHEMOKINESIS OR AN OXIDATIVE BURST.
CC -1- SUBUNIT: HOMOTETRAMER.
CC -1- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
CC C-X-C) (CHEMOKINE CXC).

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DR EMBL: X53798; G53129; -
DR PIR: JH0200; JH0200.
DR PDB: 1MT2; 29-APR-98.
DR MGD: MGI:96991; MIP2.
DR PROSITE: PS00471; SMALL_CYTOKINES_CXC; 1.
DR PFAM: PF00048; 118; 1.
KW CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL; 3D-STRUCTURE.
FT SIGNAL 1 27
FT CHAIN 28 100 MACROPHAGE INFLAMMATORY PROTEIN 2.
FT DISULFID 36 62
FT DISULFID 38 78
SQ SEQUENCE 100 AA; 10621 MW; 333AC6A4 CRC32;

Query Match 65.2%; Score 60; DB 1; Length 100;
Best Local Similarity 70.0%; Pred. No. 7.50e-02;
Matches 7; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

Db 77 VCLDPEAPLV 86
QY 2 ICLDPEAPFL 11

```

Search completed: Fri Feb 4 17:16:12 2000
Job time : 23 secs.

MPSrch_pp protein - protein database search, using Smith-Waterman algorithm
Run on: Fri Feb 4 17:15:11 2000; MasPar time 3.59 Seconds
Tabular output not generated.
Title: >US-09-150-813-41
Description: (1-12) from US09150813.pep
Sequence: 1 EICLDPEAPFLK 12
Scoring table: PAM 150
Gap 15
Searched: 122810 seqs, 40068593 residues
Post-processing: Minimum Match 0%
Listing first 45 summaries
Database: pir60
1:pir1 2:pir2 3:pir3 4:pir4
Statistics: Mean 24.908; Variance 32.652; scale 0.763
Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.
SUMMARIES
Result No. Score Query Match Length DB ID Description Pred. No.

1 92 100.0 114 2 A55010 neutrophil-activating 1.45e-08
2 87 94.6 75 2 A54188 granulocyte chemotact 2.45e-07
3 74 80.4 75 2 B54188 granulocyte chemotact 2.88e-04
4 70 76.1 132 2 A57325 C-X-C chemokine LIX - 2.30e-03
5 67 72.8 117 2 B44253 alveolar macrophage c 1.05e-02
6 63 68.5 53 2 I51886 macrophage inflamma 7.58e-02
7 63 68.5 100 2 S21467 macrophage inflamma 7.58e-02
8 63 68.5 100 2 I55614 macrophage inflamma 7.58e-02
9 63 68.5 119 2 S42881 platelet basic protei 7.58e-02
10 62 67.4 128 1 TGHU beta-thromboglobulin 1.23e-01
11 62 67.4 225 2 B71466 deoxyribose-phosphate 1.23e-01
12 62 67.4 427 2 B71466 deoxyribose-phosphate 1.23e-01
13 60 65.2 96 2 A32954 gro-alpha precursor - 3.19e-01
14 60 65.2 100 2 JH0200 macrophage inflamma 3.19e-01
15 60 65.2 100 2 S42188 cytokine-induced neut 3.19e-01
16 58 63.0 53 2 I64831 gene KC protein - rat 8.14e-01
17 58 63.0 96 2 JH0572 neutrophil chemo-atr 8.14e-01
18 58 63.0 314 2 J04066 ADP-L-glycero-D-manno 8.14e-01
19 57 62.0 103 2 I50417 RSV-induced protein - 1.29e+00
20 57 62.0 103 2 A26736 transformation-induce 1.29e+00
21 57 62.0 167 1 UVPVF3 nonstructural protein 1.29e+00
22 57 62.0 225 2 S75498 hypothetical protein 1.29e+00
23 57 62.0 310 2 JH0299 ADP-L-glycero-D-manno 1.29e+00

Release 3.1A John F. Collins, Biocomputing Research Unit.
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MPSrch_pp protein - protein database search, using Smith-Waterman algorithm
Run on: Fri Feb 4 17:15:11 2000; MasPar time 3.59 Seconds
Tabular output not generated.

Title: >US-09-150-813-41
Description: (1-12) from US09150813.pep
Sequence: 1 EICLDPEAPFLK 12
Scoring table: PAM 150
Gap 15
Searched: 122810 seqs, 40068593 residues
Post-processing: Minimum Match 0%
Listing first 45 summaries
Database: pir60
1:pir1 2:pir2 3:pir3 4:pir4
Statistics: Mean 24.908; Variance 32.652; scale 0.763

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match % | Length | DB | ID | Description | Pred. No. |
|------------|-------|---------------|--------|----|--------|-----------------------|-----------|
| 1 | 92 | 100.0 | 114 | 2 | A55010 | neutrophil-activating | 1.45e-08 |
| 2 | 87 | 94.6 | 75 | 2 | A54188 | granulocyte chemotact | 2.45e-07 |
| 3 | 74 | 80.4 | 75 | 2 | B54188 | granulocyte chemotact | 2.88e-04 |
| 4 | 70 | 76.1 | 132 | 2 | A57325 | C-X-C chemokine LIX - | 2.30e-03 |
| 5 | 67 | 72.8 | 117 | 2 | B44253 | alveolar macrophage c | 1.05e-02 |
| 6 | 63 | 68.5 | 53 | 2 | I51886 | macrophage inflamma | 7.58e-02 |
| 7 | 63 | 68.5 | 100 | 2 | S21467 | macrophage inflamma | 7.58e-02 |
| 8 | 63 | 68.5 | 100 | 2 | I55614 | macrophage inflamma | 7.58e-02 |
| 9 | 63 | 68.5 | 119 | 2 | S42881 | platelet basic protei | 7.58e-02 |
| 10 | 62 | 67.4 | 128 | 1 | TGHU | beta-thromboglobulin | 1.23e-01 |
| 11 | 62 | 67.4 | 225 | 2 | B71466 | deoxyribose-phosphate | 1.23e-01 |
| 12 | 62 | 67.4 | 427 | 2 | B71466 | deoxyribose-phosphate | 1.23e-01 |
| 13 | 60 | 65.2 | 96 | 2 | A32954 | gro-alpha precursor - | 3.19e-01 |
| 14 | 60 | 65.2 | 100 | 2 | JH0200 | macrophage inflamma | 3.19e-01 |
| 15 | 60 | 65.2 | 100 | 2 | S42188 | cytokine-induced neut | 3.19e-01 |
| 16 | 58 | 63.0 | 53 | 2 | I64831 | gene KC protein - rat | 8.14e-01 |
| 17 | 58 | 63.0 | 96 | 2 | JH0572 | neutrophil chemo-atr | 8.14e-01 |
| 18 | 58 | 63.0 | 314 | 2 | J04066 | ADP-L-glycero-D-manno | 8.14e-01 |
| 19 | 57 | 62.0 | 103 | 2 | I50417 | RSV-induced protein - | 1.29e+00 |
| 20 | 57 | 62.0 | 103 | 2 | A26736 | transformation-induce | 1.29e+00 |
| 21 | 57 | 62.0 | 167 | 1 | UVPVF3 | nonstructural protein | 1.29e+00 |
| 22 | 57 | 62.0 | 225 | 2 | S75498 | hypothetical protein | 1.29e+00 |
| 23 | 57 | 62.0 | 310 | 2 | JH0299 | ADP-L-glycero-D-manno | 1.29e+00 |

| | | | | | | | |
|----|----|------|------|---|--------|-------------------------|----------|
| 24 | 57 | 62.0 | 1198 | 2 | S51434 | hypothetical protein | 1.29e+00 |
| 25 | 56 | 60.9 | 212 | 4 | S37457 | self-incompatibility- | 2.03e+00 |
| 26 | 56 | 60.9 | 218 | 4 | S37459 | self-incompatibility | 2.03e+00 |
| 27 | 56 | 60.9 | 277 | 2 | A39964 | photosystem II oxygen | 2.03e+00 |
| 28 | 56 | 60.9 | 1487 | 2 | B41182 | collagen alpha 1(I) | 3.19e+00 |
| 29 | 55 | 59.8 | 101 | 2 | B28414 | growth-regulated prot | 3.19e+00 |
| 30 | 55 | 59.8 | 219 | 2 | A70314 | deoxyribose-phosphate | 3.19e+00 |
| 31 | 55 | 59.8 | 296 | 2 | S51746 | hypothetical protein | 3.19e+00 |
| 32 | 55 | 59.8 | 463 | 2 | B55508 | interferon alpha Irls | 4.98e+00 |
| 33 | 54 | 58.7 | 402 | 2 | G70071 | conserved hypotheticala | 4.98e+00 |
| 34 | 53 | 57.6 | 181 | 2 | D65179 | hypothetical 20.8 kD | 7.72e+00 |
| 35 | 53 | 57.6 | 1001 | 2 | S66704 | hypothetical protein | 7.72e+00 |
| 36 | 53 | 57.6 | 1051 | 2 | A35763 | collagen alpha 2 chai | 7.72e+00 |
| 37 | 53 | 57.6 | 1487 | 1 | CGH06C | collagen alpha 1(II) | 7.72e+00 |
| 38 | 53 | 57.6 | 1896 | 2 | T01490 | ubiquitin carboxyl-te | 7.72e+00 |
| 39 | 52 | 56.5 | 273 | 2 | S06736 | photosystem II oxygen | 1.19e+01 |
| 40 | 52 | 56.5 | 585 | 2 | A56812 | H+-transporting ATP s | 1.19e+01 |
| 41 | 52 | 56.5 | 730 | 1 | IJMSCH | M-cadherin - mouse (f | 1.19e+01 |
| 42 | 52 | 56.5 | 814 | 2 | G02878 | cadherin-15 precursor | 1.19e+01 |
| 43 | 51 | 55.4 | 107 | 2 | A28414 | melanoma growth-stimu | 1.83e+01 |
| 44 | 51 | 55.4 | 147 | 2 | H69742 | hypothetical protein | 1.83e+01 |
| 45 | 51 | 55.4 | 2958 | 2 | S64921 | probable membrane pro | 1.83e+01 |

ALIGNMENTS

RESULT 1
ENTRY A55010 #type complete
TITLE neutrophil-activating peptide ENA-78 precursor - human
ALTERNATE_NAMES epithelial-derived neutrophil-activating peptide 78 (ENA-78)
ORGANISM #formal_name Homo sapiens #common_name man
DATE 11-Nov-1994 #sequence_revision 03-Oct-1995 #text_change
ACCESSIONS 13-Nov-1998
JC2433; A55010; I37357; JH0558; PS0347; S44075
REFERENCE JC2433
Corbett, M.S.; Schmitt, I.; Riess, O.; Walz, A.
Biochem. Biophys. Res. Commun. (1994) 205:612-617
#journal Characterization of the gene for human neutrophil-activating
#title peptide 78 (ENA-78).
#cross-references MUID:95091791
#accession JC2433
#molecule_type DNA
##residues 1-114 ##label COR
##cross-references GB:L37036; NID:g607030; PID:g607031
REFERENCE A55010
Chang, M.; McNinch, J.; Basu, R.; Simonet, S.
J. Biol. Chem. (1994) 269:25277-25282
#journal Cloning and characterization of the human
#title neutrophil-activating peptide (ENA-78) gene.
#accession A55010
#molecule_type DNA
##residues 1-12,'S',14-114 ##label CHA
##cross-references GB:U12709
REFERENCE I37357
Power, C.A.; Furness, R.B.; Brawand, C.; Wells, T.N.
Gene (1994) 151:333-334
#journal Cloning of a full-length cDNA encoding the
#title neutrophil-activating peptide ENA-78 from human platelets.
#cross-references MUID:95129887
#accession I37357 translated from GB/EMBL/DBJ
##status
##molecule_type mRNA
##residues 1-114 ##label RES
##cross-references EMBL:X78686; NID:g471242; PID:g471243
REFERENCE JH0558
Walz, A.; Burgener, R.; Car, B.; Baggiolini, M.; Kunkel, S.L.; Strieter, R.M.
J. Exp. Med. (1991) 174:1355-1362
#journal Structure and neutrophil-activating properties of a novel
#title inflammatory peptide (ENA-78) with homology to interleukin
8.
#cross-references MUID:92078844
#accession JH0558

```

##molecule_type mRNA
##residues 43-114 ##label WALL1
##experimental_source pulmonary type II epithelial cell line A549
#accession PS0347
##molecule_type protein
##residues 37-70;93-114 ##label WAL2
GENETICS
#gene ENA78; NAP
#map_position 4q13-q21
#introns 37/1; 81/3; 109/2
CLASSIFICATION
#superfamily beta-thromboglobulin
#cytokine
FEATURE
1-17
37-114
#domain signal sequence #status predicted #label SIG\
#product neutrophil-activating peptide ENA-78 #status
experimental #label Mar
SUMMARY
#length 114 #molecular-weight 11972 #checksum 9263
Query Match 100.0%; Score 92; DB 2; Length 114;
Best Local Similarity 100.0%; Pred. No. 1.45e-08;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Db 89 EICLDPEAPFLK 100
|||||
QY 1 EICLDPEAPFLK 12

RESULT 2
ENTRY
TITLE A54188 #type complete
ALTERNATE_NAMES granulocyte chemotactic protein - human
ORGANISM chemokine GCP-2
#formal_name Homo sapiens #common_name man
DATE 13-Sep-1994 #sequence_revision 18-Nov-1994 #text_change
03-Oct-1995
ACCESSIONS A54188; A46519
REFERENCE A54188
#authors Proost, P.; Wuyts, A.; Conings, R.; Lenaerts, J.P.; Billiau,
A.; Opdenakker, G.; Van Damme, J.
#journal Biochemistry (1993) 32:10170-10177
#title Human and bovine granulocyte chemotactic protein-2: complete
amino acid sequence and functional characterization as
chemokines.
#cross-references MUID:94001982
#accession A54188
##status preliminary
##molecule_type protein
##residues 1-75 ##label PRO
##experimental_source MG-63 osteosarcoma cells
#note sequence extracted from NCBI backbone (NCBIP:137966)
REFERENCE A46519
#authors Proost, P.; De Wolf-Peeters, C.; Conings, R.; Opdenakker, G.;
Billiau, A.; Van Damme, J.
#journal J. Immunol. (1993) 150:1000-1010
#title Identification of a novel granulocyte chemotactic protein
(GCP-2) from human tumor cells. In vitro and in vivo
comparison with natural forms of GRO, IP-10, and IL-8.
#cross-references MUID:93139489
#accession A46519
##status preliminary
##molecule_type protein
##residues 1-20 ##label PR2
##experimental_source MG-63 osteosarcoma cells
#note sequence extracted from NCBI backbone (NCBIP:123121)
CLASSIFICATION
#superfamily beta-thromboglobulin
#chemotaxis
SUMMARY
#length 75 #molecular-weight 8074 #checksum 86
Query Match 94.6%; Score 87; DB 2; Length 75;
Best Local Similarity 83.3%; Pred. No. 2.45e-07;
Matches 10; Conservative 2; Mismatches 0; Indels 0; Gaps 0;
Db 52 QVCLDPEAPFLK 63
|||||

```

```

QY 1 EICLDPEAPFLK 12

RESULT 3
ENTRY
TITLE B54188 #type complete
ORGANISM granulocyte chemotactic protein, GCP-2 - bovine
#formal_name Bos primigenius taurus #common_name cattle
DATE 13-Sep-1994 #sequence_revision 18-Nov-1994 #text_change
12-Apr-1995
ACCESSIONS B54188
REFERENCE A54188
#authors Proost, P.; Wuyts, A.; Conings, R.; Lenaerts, J.P.; Billiau,
A.; Opdenakker, G.; Van Damme, J.
#journal Biochemistry (1993) 32:10170-10177
#title Human and bovine granulocyte chemotactic protein-2: complete
amino acid sequence and functional characterization as
chemokines.
#cross-references MUID:94001982
#accession B54188
##status preliminary
##molecule_type protein
##residues 1-75 ##label PRO
##experimental_source MDBK cells
#note sequence extracted from NCBI backbone (NCBIP:137967)
CLASSIFICATION
#superfamily beta-thromboglobulin
SUMMARY
#length 75 #molecular-weight 7931 #checksum 8842
Query Match 80.4%; Score 74; DB 2; Length 75;
Best Local Similarity 75.0%; Pred. No. 2.88e-04;
Matches 9; Conservative 3; Mismatches 0; Indels 0; Gaps 0;
Db 52 EICLDPEAPFLK 63
|||||
QY 1 EICLDPEAPFLK 12

RESULT 4
ENTRY
TITLE A57325 #type complete
ALTERNATE_NAMES C-X-C chemokine LIX - mouse
ORGANISM GARG-8/LIX; glucocorticoid-attenuated response gene 8
#formal_name Mus musculus #common_name house mouse
DATE 08-Dec-1995 #sequence_revision 08-Dec-1995 #text_change
08-Sep-1997
ACCESSIONS A57325
REFERENCE A57325
#authors Smith, J.B.; Herschman, H.R.
#journal J. Biol. Chem. (1995) 270:16756-16765
#title Glucocorticoid-attenuated response genes encode intercellular
mediators, including a new C-X-C chemokine.
#cross-references MUID:95348101
#accession A57325
##status preliminary; not compared with conceptual translation
##molecule_type mRNA
##residues 1-132 ##label SMI
#cross-references GB:U27267; MUID:9950158; PID:9950159
CLASSIFICATION
#superfamily beta-thromboglobulin
SUMMARY
#length 132 #molecular-weight 14190 #checksum 2181
Query Match 76.1%; Score 70; DB 2; Length 132;
Best Local Similarity 75.0%; Pred. No. 2.30e-03;
Matches 9; Conservative 2; Mismatches 1; Indels 0; Gaps 0;
Db 93 EICLDPEAPFLK 104
|||||
QY 1 EICLDPEAPFLK 12

RESULT 5
ENTRY
TITLE B44253 #type complete
ORGANISM alveolar macrophage chemotactic factor-II (AMCF-II)
#intercrine-alpha protein - pig
#formal_name Sus scrofa domestica #common_name domestic pig
DATE 30-Apr-1993 #sequence_revision 18-Nov-1994 #text_change

```

```

29-Jan-1999
B44253
A44253
REFERENCE
#authors Goodman, R.B.; Foster, D.C.; Mathewes, S.L.; Osborn, S.G.;
#journal Kuiper, J.L.; Forstrom, J.W.; Martin, T.R.
#title Biochemistry (1992) 31:10483-10490
#note Molecular cloning of porcine alveolar macrophage-derived
neutrophil chemotactic factors I and II; identification of
porcine IL-8 and another interleukin-alpha protein.
#cross-references MUID:93041741
#accession B44253
#status preliminary
#molecule_type mRNA; protein
#residues 1-117 #label GOO
#cross-references GB:M9368; NID:g164325; PID:g164326
#experimental_source alveolar macrophage
#note sequence extracted from NCBI backbone (NCBIN:117417,
NCBIP:117418)
CLASSIFICATION #superfamily beta-thromboglobulin
SUMMARY #length 117 #molecular-weight 12343 #checksum 9615
Query Match 72.8%; Score 67; DB 2; Length 117;
Best Local Similarity 66.7%; Pred. No. 1.05e-02;
Matches 8; Conservative 3; Mismatches 1; Indels 0; Gaps 0;
Db 92 EVCLDPKAPLIK 103
I:|||||I:|
QY 1 EICLDPEAPFLK 12

RESULT 6
ENTRY I51886 #type fragment
TITLE macrophage inflammatory protein-2 - rat (fragment)
ORGANISM #formal_name Rattus sp. #common_name rat
DATE 12-Aug-1996 #sequence_revision 12-Aug-1996 #text_change
16-Feb-1997
ACCESSIONS I51886
REFERENCE I51886
#authors Huang, S.; Paulauskis, J.D.; Godleski, J.J.; Kobzik, L.
#journal Am. J. Pathol. (1992) 141:981-988
#title Expression of macrophage inflammatory protein-2 and KC mRNA
in pulmonary inflammation.
#cross-references MUID:93035653
#accession I51886
#status preliminary; translated from GB/EMBL/DBJ
#molecule_type mRNA
#residues 1-53 #label RES
#cross-references GB:S45855; NID:g257054
CLASSIFICATION #superfamily beta-thromboglobulin
SUMMARY #length 53 #checksum 9622
Query Match 68.5%; Score 63; DB 2; Length 53;
Best Local Similarity 63.6%; Pred. No. 7.58e-02;
Matches 7; Conservative 4; Mismatches 0; Indels 0; Gaps 0;
Db 38 EVCLNPEAPLV 48
I:|||||I:|
QY 1 EICLDPEAPFL 11

RESULT 7
ENTRY S21467 #type complete
TITLE macrophage inflammatory protein 2 - rat
ALTERNATE_NAMES chemoattractant P-1
ORGANISM #formal_name Rattus norvegicus #common_name Norway rat
DATE 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change
08-Sep-1997
ACCESSIONS S21467; D48988
REFERENCE S21467
#authors Driscoll, K.
#submission submitted to the EMBL Data Library, April 1992
#accession S21467
#status preliminary

#molecule_type mRNA
#residues 1-100 #label DRI
#cross-references EMBL:X5647; NID:g56665; PID:g56666
REFERENCE A48988
#authors Nakagawa, H.; Ikese, A.; Hatakeyama, S.; Kato, H.; Gotoda,
T.; Komorita, N.; Watanabe, K.; Miyai, H.
#journal Biochem. Pharmacol. (1993) 45:1425-1430
#title Production of an interleukin-8-like chemokine by
cytokine-stimulated rat NRK-49F fibroblasts and its
suppression by anti-inflammatory steroids.
#cross-references MUID:93228656
#accession D48988
#status preliminary
#molecule_type protein
#residues 32-45 #label NAK
#experimental_source kidney, NRK-49F fibroblasts
#note sequence extracted from NCBI backbone (NCBIP:129129)
CLASSIFICATION #superfamily beta-thromboglobulin
SUMMARY #length 100 #molecular-weight 10783 #checksum 709
Query Match 68.5%; Score 63; DB 2; Length 100;
Best Local Similarity 63.6%; Pred. No. 7.58e-02;
Matches 7; Conservative 4; Mismatches 0; Indels 0; Gaps 0;
Db 76 EVCLNPEAPLV 86
I:|||||I:|
QY 1 EICLDPEAPFL 11

RESULT 8
ENTRY I55614 #type complete
TITLE macrophage inflammatory protein-2 - rat
ORGANISM #formal_name Rattus sp. #common_name rat
DATE 26-Jul-1996 #sequence_revision 26-Jul-1996 #text_change
16-Feb-1997
ACCESSIONS I55614
REFERENCE I55614
#authors Feng, L.; Xia, Y.; Yoshimura, T.; Wilson, C.B.
#journal J. Clin. Invest. (1995) 95:1009-1017
#title Modulation of neutrophil influx in glomerulonephritis in the
rat with anti-macrophage inflammatory protein-2 (MIP-2)
antibody.
#cross-references MUID:95189993
#accession I55614
#status preliminary; translated from GB/EMBL/DBJ
#molecule_type mRNA
#residues 1-100 #label RES
#cross-references GB:S77604; NID:g998406; PID:g998407
CLASSIFICATION #superfamily beta-thromboglobulin
SUMMARY #length 100 #molecular-weight 10783 #checksum 709
Query Match 68.5%; Score 63; DB 2; Length 100;
Best Local Similarity 63.6%; Pred. No. 7.58e-02;
Matches 7; Conservative 4; Mismatches 0; Indels 0; Gaps 0;
Db 76 EVCLNPEAPLV 86
I:|||||I:|
QY 1 EICLDPEAPFL 11

RESULT 9
ENTRY S42881 #type complete
TITLE platelet basic protein - pig
ALTERNATE_NAMES #formal_name Sus scrofa domestica #common_name domestic pig
ORGANISM #formal_name Sus scrofa domestica #common_name domestic pig
DATE 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change
17-Mar-1999
ACCESSIONS S42881
REFERENCE S43460; S42881
#authors Power, C.A.; Proudfoot, A.E.I.; Magnenat, E.; Bacon, K.B.;
Wells, T.N.C.
#journal Eur. J. Biochem. (1994) 221:713-719
#title Molecular cloning and characterisation of a neutrophil
chemotactic protein from porcine platelets.

```

```

#cross-references MUID:94229068
#accession S43460
#status preliminary
#molecule_type mRNA
#residues 1-119 ##label POW
##cross-references EMBL:X77935; NID:9457753; PID:9457754
CLASSIFICATION #superfamily beta-thromboglobulin
SUMMARY #length 119 #molecular_weight 12615 #checksum 9198

Query Match 68.5%; Score 63; DB 2; Length 119;
Best Local Similarity 81.8%; Pred. No. 7.58e-02;
Matches 9; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 95 ICLDPEAPRIK 105
QY 2 ICLDPEAPFLK 12

RESULT 10
ENTRY TGHU #type complete
TITLE beta-thromboglobulin precursor - human
CONTAINS connective-tissue activating peptide III; CTAP-III;
histamine-releasing factor; neutrophil-activating peptide
2; platelet basic protein
ORGANISM #formal_name Homo sapiens #common_name nan
DATE 30-Apr-1979 #sequence_revision 31-Dec-1992 #text_change
26-Feb-1999
ACCESSIONS A39546; A37382; A24448; PL0222; A93982; A90411; A60709;
A61240; B61240; A03240; A30159; A33516; S46247
REFERENCE A39546
#authors Majumdar, S.; Gonder, D.; Koutsis, B.; Poncz, M.
#journal J. Biol. Chem. (1991) 266:5785-5789
#title Characterization of the human beta-thromboglobulin gene.
#cross-references MUID:91170256
#accession A39546
##molecule_type DNA
#residues 1-128 ##label MAJ
##cross-references GB:M54995; NID:g181175; PID:g181176
#note the authors translated the codon GAT for residue 109 as
Pro

REFERENCE A37382
#authors Wenger, R.H.; Wicki, A.N.; Walz, A.; Kieffer, N.; Clemetson,
K.J.
#journal Blood (1989) 73:1498-1503
#title Cloning of cDNA coding for connective tissue activating
peptide III from a human platelet-derived lambdaBgtII
expression library.
#cross-references MUID:89229374
#accession A37382
##molecule_type mRNA
#residues 1-128 ##label WEN
##cross-references GB:M54995; NID:g181175; PID:g181176; GB:M38441
REFERENCE A24448
#authors Holt, J.C.; Harris, M.E.; Holt, A.M.; Lange, E.; Henschen,
A.; Niewiarowski, S.
#journal Biochemistry (1986) 25:1988-1996
#title Characterization of human platelet basic protein, a precursor
form of low-affinity platelet factor 4 and
beta-thromboglobulin.
#cross-references MUID:8621617
#accession A2448
##molecule_type protein
#residues 35-53 ##label HOL
REFERENCE PL0222
#authors Walz, A.; Baggiolini, M.
#journal J. Exp. Med. (1990) 171:449-454
#title Generation of the neutrophil-activating peptide NAP-2 from
platelet basic protein or connective tissue-activating
peptide III through monocyte proteases.
#cross-references MUID:90155110
#accession PL0222
##molecule_type protein

```

```

##residues 54-67 ##label WAL
REFERENCE A93982
#authors Castor, C.W.; Miller, J.W.; Walz, D.A.
#journal Proc. Natl. Acad. Sci. U.S.A. (1983) 80:765-769
#title Structural and biological characteristics of connective
tissue activating peptide (CTAP-III), a major human
platelet-derived growth factor.
#cross-references MUID:83144010
#accession A93982
##molecule_type protein
##residues 44-66;125-128 ##label CAS
REFERENCE A90411
#authors Begg, G.S.; Pepper, D.S.; Chesterman, C.N.; Morgan, F.J.
#journal Biochemistry (1978) 17:1739-1744
#title Complete covalent structure of human beta-thromboglobulin.
#cross-references MUID:78187279
#accession A90411
##molecule_type protein
##residues 48-128 ##label BEG
REFERENCE A60709
#authors Baeza, M.L.; Reddigari, S.R.; Kornfeld, D.; Ramani, N.;
Smith, E.M.; Hossler, P.A.; Fischer, T.; Castor, C.W.;
Gorevic, P.G.; Kaplan, A.P.
#journal J. Clin. Invest. (1990) 85:1516-1521
#title Relationship of one form of human histamine-releasing factor
to connective tissue activating peptide-III.
#cross-references MUID:90237229
#accession A60709
##molecule_type protein
##residues 44-62,'X',64-79 ##label BAE
REFERENCE A61240
#authors Kaplan, A.P.; Baeza, M.; Reddigari, S.; Kuna, P.
#journal Int. Arch. Allergy Appl. Immunol. (1991) 94:148-153
#title Histamine-releasing factors.
#cross-references MUID:92040226
#accession A61240
##molecule_type protein
##residues 44-61,'XX',64 ##label KAP
REFERENCE B61240
#authors Kungl, A.J.; Machius, M.; Huber, R.; Schwer, C.; Lam, C.;
Aschauer, H.; Ehn, G.; Lindley, I.J.D.; Auer, M.
#journal FEBS Lett. (1994) 347:300-303
#title Purification, crystallization and preliminary X-ray
diffraction analysis of recombinant human
neutrophil-activating peptide 2 (rhnAP-2).
#cross-references MUID:94307404
#contents annotation
COMMENT There appears to be a second beta-thromboglobulin-like human gene.
CONNECTIVE-TISSUE ACTIVATING PEPTIDES (CTAP) are a group of
proteins capable of activating connective tissue cells. CTAP-I,
-II, -III and -P2 and -PMN are of lymphoid, tumor cell, human
platelet, and polymorphonuclear leukocyte origin, respectively.
CTAP-III, a monomer isolated from platelets, stimulates DNA
synthesis, mitosis, glycolysis, intracellular cAMP accumulation,
prostaglandin E2 secretion, and synthesis of hyaluronic acid and
sulfated glycosaminoglycan. It also stimulates the formation and
secretion of plasminogen activator by human synovial cells.
Proteolytic removal of the first four residues of CTAP-III produces
the active peptide beta-thromboglobulin, which is released from
platelets along with platelet factor 4 and platelet-derived
growth factor.
GENETICS GDB:PPBP; THBG1
#gene #cross-references GDB:127391; OMIM:121010
#map_position 4p12-q13
#introns 50/1; 95/2
CLASSIFICATION #superfamily beta-thromboglobulin
KEYWORDS growth factor; homotetramer; platelet
FEATURE 1-34
#domain signal sequence #status predicted #label SIG\

```

Sat Feb 5 15:13:55 2000

```

35-43      #domain propeptide #status predicted #label PROX
44-128     #product connective-tissue activating peptide III
          #status experimental #label CTAP\
48-128     #product beta-thromboglobulin #status experimental
          #label BTG\
59-128     #product neutrophil-activating peptide 2 #status
          experimental #label NAP2\
63-89,65-105 #disulfide_bonds #status experimental
SUMMARY    #length 128 #molecular_weight 13894 #checksum 6910

Query Match      67.4%; Score 62; DB 1; Length 128;
Best Local Similarity 72.7%; Pred. No. 1.23e-01;
Matches          8; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 104 ICLDPDAPRIK 114
QY 2 ICLDPEAPFLK 12

RESULT 11
ENTRY  S77105 #type complete
TITLE  deoxyribose-phosphate aldolase (EC 4.1.2.4) - Synechocystis
        sp. (strain PCC 6803)
ALTERNATE_NAMES protein sl11776
ORGANISM #formal_name Synechocystis sp.
#variety PCC 6803
DATE 25-Apr-1997 #sequence_revision 25-Apr-1997 #text_change
21-Aug-1998
ACCESSIONS S77105
REFERENCE S74322
#authors Kaneko, T.; Sato, S.; Kotani, H.; Tanaka, A.; Asamizu, E.;
        Nakamura, Y.; Miyajima, N.; Hirose, M.; Sugita, M.;
        Sasamoto, S.; Kimura, T.; Hosouchi, T.; Matsuno, A.;
        Muraki, A.; Nakazaki, N.; Naruo, K.; Okumura, S.; Shimpo,
        S.; Takeuchi, C.; Wada, T.; Watanabe, A.; Yamada, M.;
        Yasuda, M.; Tabata, S.
#journal DNA Res. (1996) 3:109-136
#title Sequence analysis of the genome of the unicellular
        cyanobacterium Synechocystis sp. PCC6803. II. Sequence
        determination of the entire genome and assignment of
        potential protein-coding regions.
#cross-references MUID:97061201
#accession S77105
#status nucleic acid sequence not shown; translation not shown
#molecule_type DNA
#residues 1-225 #label KAN
#cross-references EMBL:D90908; GB:AB001339; NID:gl652725; PID:d1018396;
        PID:gl652744
#note the nucleotide sequence was submitted to the EMBL Data
        Library, June 1996

GENETICS deoc
#gene #superfamily deoxyribose-phosphate aldolase
CLASSIFICATION #aldehyde-lyase; carbon-carbon lyase
KEYWORDS #length 225 #molecular_weight 23874 #checksum 7847
SUMMARY

Query Match      67.4%; Score 62; DB 2; Length 225;
Best Local Similarity 58.3%; Pred. No. 1.23e-01;
Matches          7; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

Db 145 EICLDAGVOYLK 156
QY 1 EICLDPEAPFLK 12

RESULT 12
ENTRY  B71466 #type complete
TITLE  hypothetical protein CT825 - Chlamydia trachomatis (serotype
        D, strain UW3/Cx)
ORGANISM #formal_name Chlamydia trachomatis
DATE 13-Sep-1998 #sequence_revision 13-Sep-1998 #text_change
21-Nov-1998
ACCESSIONS B71466

REFERENCE A71570
#authors Stephens, R.S.; Kalman, S.; Lammel, C.J.; Fan, J.; Marathe,
        R.; Aravind, L.; Mitchell, W.P.; Olinger, L.; Tatusov,
        R.; Zhao, Q.; Koonin, E.V.; Davis, R.W.
#journal Science (1998) 282:754-759
#title Genome sequence of an obligate intracellular pathogen of
        humans: Chlamydia trachomatis.
#cross-references MUID:99000809
#accession B71466
#status preliminary
#molecule_type DNA
#residues 1-427 #label ARN
#cross-references GB:AE001355; GB:AE001273; NID:g3329292; PID:g3329295
#experimental_source serotype D, strain UW-3/Cx

GENETICS CT825 #length 427 #molecular_weight 48583 #checksum 4805
SUMMARY

Query Match      67.4%; Score 62; DB 2; Length 427;
Best Local Similarity 70.0%; Pred. No. 1.23e-01;
Matches          7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 412 CLSPEASYLK 421
QY 3 CLDPEAPFLK 12

RESULT 13
ENTRY  A32954 #type complete
TITLE  gro-alpha precursor - mouse
ALTERNATE_NAMES gro protein; growth regulated protein; melanoma
        growth-stimulating activity factor; melanoma mitogenic
        protein; secretory protein N51
ORGANISM #formal_name Mus musculus #common_name house mouse
DATE 20-Oct-1989 #sequence_revision 20-Oct-1989 #text_change
08-Sep-1997
ACCESSIONS A32954; JH0081
REFERENCE A32954
#authors Oquendo, P.; Alberta, J.; Wen, D.; Graycar, J.L.; Derynck,
        R.; Stiles, C.D.
#journal J. Biol. Chem. (1989) 264:4133-4137
#title The platelet-derived growth factor-inducible KC gene encodes
        a secretory protein related to platelet alpha-granule
        proteins.
#cross-references MUID:89139485
#accession A32954
#molecule_type mRNA
#residues 1-96 #label OQU
#cross-references GB:J04596; NID:g201042; PID:g201043
        JH0081
REFERENCE JH0081
#authors Ryseck, R.P.; MacDonald-Bravo, H.; Mattei, M.G.; Bravo, R.
#journal Exp. Cell Res. (1989) 180:266-275
#title Cloning and sequence of a secretory protein induced by growth
        factors in mouse fibroblasts.
#cross-references MUID:89078502
#accession JH0081
#molecule_type mRNA
#residues 1-96 #label RYS
#note This protein is basic and lacks threonine, phenylalanine, and
        tyrosine.

GENETICS #map_position 5
CLASSIFICATION #superfamily beta-thromboglobulin
        extracellular protein
KEYWORDS
FEATURE 1-24
        25-96
SUMMARY #length 96 #molecular_weight 10254 #checksum 5052
        #domain signal sequence #status predicted #label SIG\
        #product gro-alpha #status predicted #label MAT

Query Match      65.2%; Score 60; DB 2; Length 96;
Best Local Similarity 72.7%; Pred. No. 3.19e-01;
Matches          8; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

```

Db 73 EACLDPEAPLV 83
1|||||:::
Qy 1 EICLDPEAPFL 11

RESULT 14

ENTRY #type complete
TITLE macrophage inflammatory protein 2 precursor - mouse
ORGANISM #formal_name Mus musculus #common_name house mouse
DATE 30-Sep-1991 #sequence_revision 30-Sep-1991 #text_change 08-Sep-1997
ACCESSIONS JH0200; A32190
REFERENCE JH0200
#authors Tekamp-Olson, P.; Gallegos, C.; Bauer, D.; McClain, J.; Sherry, B.; Fabre, M.; van Deventer, S.; Cerami, A.
#journal J. Exp. Med. (1990) 172:911-919
#title Cloning and characterization of cDNAs for murine macrophage inflammatory protein 2 and its human homologues.
#cross-references MUID:90354792
#accession JH0200

##molecule_type mRNA
##residues 1-100 #label TEK
##cross-references GB:X53798; NID:g53128; PID:g53129
REFERENCE A32190
#authors Wolpe, S.D.; Sherry, B.; Juers, D.; Davatelis, G.; Yurt, R.W.; Cerami, A.
#journal Proc. Natl. Acad. Sci. U.S.A. (1989) 86:612-616
#title Identification and characterization of macrophage inflammatory protein 2.
#cross-references MUID:89098980
#accession A32190

##molecule_type protein
##residues 28-59 #label WOL

CLASSIFICATION #superfamily beta-thromboglobulin

KEYWORDS heparin binding

FEATURE

1-27

28-100

SUMMARY

Query Match 65.2%; Score 60; DB 2; Length 100;
Best Local Similarity 70.0%; Pred. No. 3.19e-01;
Matches 7; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

Db 77 VCLDPEAPLV 86
:|||||:::
Qy 2 ICLDPEAPFL 11

RESULT 15

ENTRY #type complete
TITLE cytokine-induced neutrophil chemoattractant 2 - rat
ORGANISM #formal_name Rattus norvegicus #common_name Norway rat
DATE 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change 08-Sep-1997
ACCESSIONS S46198; C48988
REFERENCE S46198
#authors Nakagawa, H.; Komorita, N.; Shibata, F.; Ikesue, A.; Konishi, K.; Fujioka, M.; Kato, H.
#journal Biochem. J. (1994) 301:545-550
#title Identification of cytokine-induced neutrophil chemoattractants (CINC), rat GRO/CINC-2-alpha and CINC-2-beta, produced by granulation tissue in culture: purification, complete amino acid sequences and characterization.
#accession S46198
##status preliminary
##molecule_type mRNA
##residues 1-100 #label NAK
#cross-references EMBL:D31095; NID:g517143; PID:d1005186; PID:g517144
REFERENCE A48988
#authors Nakagawa, H.; Ikesue, A.; Hatakeyama, S.; Kato, H.; Gotoda,

T.; Komorita, N.; Watanabe, K.; Miyai, H.
Biochem. Pharmacol. (1993) 45:1425-1430
Production of an interleukin-8-like chemokine by cytokine-stimulated rat NRK-49F fibroblasts and its suppression by anti-inflammatory steroids.
#cross-references MUID:93228656
#accession C48988
##status preliminary
##molecule_type protein
##residues 33-56 #label NAK
##experimental_source kidney, NRK-49F fibroblasts
##note #sequence extracted from NCBI backbone (NCBIP:129130)
CLASSIFICATION #superfamily beta-thromboglobulin
SUMMARY #length 100 #molecular-weight 10989 #checksum 956

Query Match 65.2%; Score 60; DB 2; Length 100;
Best Local Similarity 63.6%; Pred. No. 3.19e-01;
Matches 7; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

Db 77 EVCLNPOAPRL 87
:|||||:::
Qy 1 EICLDPEAPFL 11

Search completed: Fri Feb 4 17:15:32 2000
Job time : 21 secs.

WQELH
***** (TM)

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MPSrch_pp protein - protein database search, using Smith-Waterman algorithm

Run on: Fri Feb 4 17:14:32 2000; MasPar time 3.48 Seconds
Tabular output not generated.

Title: >US-09-150-813-41
Description: (1-12) from US09150813.pep
Perfect Score: 92
Sequence: 1 EICLDPEAPFLK 12
Scoring table: PAM 150
Gap 15

Searched: 170751 seqs, 21266608 residues
Post-processing: Minimum Match 0%
Listing first 45 summaries

Database: a-geneseq35
1:part1 2:part2 3:part3 4:part4 5:part5 6:part6 7:part7
8:part8 9:part9 10:part10 11:part11 12:part12 13:part13
14:part14 15:part15 16:part16 17:part17 18:part18
19:part19 20:part20 21:part21 22:part22 23:part23
24:part24 25:part25 26:part26 27:part27 28:part28
29:part29 30:part30 31:part31 32:part32 33:part33
34:part34 35:part35 36:part36 37:part37 38:part38
39:part39

Statistics: Mean 18.372; Variance 54.493; scale 0.337

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

| SUMMARIES | | | | |
|------------|-------|---------------|---------------|-----------|
| Result No. | Score | Query Match % | Description | Pred. No. |
| 1 | 92 | 100.0 | 72 7 R34198 | 2.30e-03 |
| 2 | 92 | 100.0 | 78 13 R70796 | 2.30e-03 |
| 3 | 87 | 94.6 | 75 10 R55843 | 9.37e-03 |
| 4 | 87 | 94.6 | 113 27 W36449 | 9.37e-03 |
| 5 | 87 | 94.6 | 114 31 W46286 | 9.37e-03 |
| 6 | 74 | 80.4 | 75 10 R55844 | 3.35e-01 |
| 7 | 67 | 72.8 | 160 34 W69596 | 2.17e+00 |
| 8 | 64 | 69.6 | 69 23 W20061 | 4.77e+00 |
| 9 | 62 | 67.4 | 32 13 R70805 | 8.00e+00 |
| 10 | 62 | 67.4 | 69 13 R70789 | 8.00e+00 |
| 11 | 62 | 67.4 | 70 16 R86012 | 8.00e+00 |
| 12 | 62 | 67.4 | 70 7 R36775 | 8.00e+00 |
| 13 | 62 | 67.4 | 75 25 W26467 | 8.00e+00 |
| 14 | 62 | 67.4 | 75 15 R86011 | 8.00e+00 |
| 15 | 62 | 67.4 | 81 13 R70788 | 8.00e+00 |
| 16 | 62 | 67.4 | 85 3 P50526 | 8.00e+00 |

| | | | | | | | |
|----|----|------|------|----|--------|-----------------------|----------|
| 17 | 62 | 67.4 | 85 | 4 | R22991 | CTAP-III analogues. | 8.00e+00 |
| 18 | 62 | 67.4 | 85 | 13 | R70786 | CTAP-III heparanase. | 8.00e+00 |
| 19 | 62 | 67.4 | 85 | 1 | R05550 | Connective tissue act | 8.00e+00 |
| 20 | 62 | 67.4 | 94 | 13 | R70787 | Platelet basic protei | 8.00e+00 |
| 21 | 62 | 67.4 | 128 | 3 | R13520 | Leukocyte derived gro | 8.00e+00 |
| 22 | 62 | 67.4 | 128 | 3 | R13521 | Leukocyte derived gro | 8.00e+00 |
| 23 | 62 | 67.4 | 128 | 1 | R05767 | Precursor of platelet | 8.00e+00 |
| 24 | 62 | 67.4 | 128 | 3 | R13519 | Leukocyte derived gro | 8.00e+00 |
| 25 | 62 | 67.4 | 135 | 2 | R07984 | CTAP(Leu21)/LamB1-40 | 8.00e+00 |
| 26 | 60 | 65.2 | 68 | 17 | R09029 | Neutrophil chemotacti | 1.34e+01 |
| 27 | 60 | 65.2 | 68 | 17 | R09030 | Neutrophil chemotacti | 1.34e+01 |
| 28 | 60 | 65.2 | 72 | 39 | W81497 | Mouse mature KC polyv | 1.34e+01 |
| 29 | 60 | 65.2 | 72 | 24 | W17669 | Murine chemokine KC. | 1.34e+01 |
| 30 | 60 | 65.2 | 72 | 12 | R66697 | Murine chemokine KC. | 1.34e+01 |
| 31 | 60 | 65.2 | 72 | 25 | W18023 | Murine chemokine inf | 1.34e+01 |
| 32 | 60 | 65.2 | 100 | 4 | R20528 | Murine macrophage inf | 1.34e+01 |
| 33 | 60 | 65.2 | 100 | 17 | R09028 | Neutrophil chemotacti | 1.34e+01 |
| 34 | 60 | 65.2 | 100 | 4 | R20588 | Murine macrophage inf | 1.34e+01 |
| 35 | 60 | 65.2 | 100 | 26 | R05790 | Macrophage derived in | 1.34e+01 |
| 36 | 59 | 64.1 | 483 | 13 | R71580 | Flaveria brownii fruc | 1.73e+01 |
| 37 | 59 | 64.1 | 485 | 13 | R71579 | Solanum tuberosum fru | 1.73e+01 |
| 38 | 58 | 63.0 | 72 | 3 | R14077 | Cytokine and neutroph | 2.22e+01 |
| 39 | 57 | 62.0 | 310 | 6 | R32195 | ADP-L-glycero-D-manno | 2.86e+01 |
| 40 | 57 | 62.0 | 1198 | 33 | W64384 | S. cerevisiae L9470.2 | 2.86e+01 |
| 41 | 56 | 60.9 | 1442 | 14 | R79480 | Rat type II collagen | 3.68e+01 |
| 42 | 55 | 59.8 | 24 | 11 | R58626 | Putative glycan bindi | 4.72e+01 |
| 43 | 55 | 59.8 | 24 | 35 | W70291 | Neutrophil activating | 4.72e+01 |
| 44 | 54 | 58.7 | 426 | 13 | R71583 | Raphanus sativus fruc | 6.05e+01 |
| 45 | 53 | 57.6 | 105 | 32 | W50882 | Amino acid sequence o | 7.74e+01 |

ALIGNMENTS

RESULT 1
ID R34198 standard; Protein: 72 AA.
AC R34198;
DT 29-JUL-1993 (first entry)
DE ENA-78.
KW ENA-78; epithelial cell; neutrophil; A549; human; pulmonary; burn;
KW amplify; deficiency; activity; yeast; fungal; viral; infection;
KW inflammatory illness; hyperproliferative skin disease; psoriasis;
KW arthritis; asthma; hematopoietic deficit; chemotherapy; radiation;
KW bone marrow; transplant; wound healing; treatment; infection; PCR.
OS Homo sapiens.
PN EP-538030-A.
PD 21-APR-1993.
PF 15-OCT-1992; 309407.
PR 16-OCT-1991; US-778413.
PA (WALZ/) WALZ A.
PI Walz A;
DR WPI; 93-127862/16.
DR N-PSDB; Q38841.
PT New polypeptide ENA-78 neutrophil-activating factor - for
PT treating neutrophil deficiency e.g. in bacterial, mycoplasma,
PT yeast, fungal and viral infections, inflammatory conditions e.g.
PT psoriasis etc.
PS Disclosure; Fig 5; 28pp; English.
CC This sequence represents polypeptide ENA-78 which is derived from
CC epithelial cells and has the ability to activate neutrophils. ENA-
CC 78 was isolated from cultured stimulated A549 human pulmonary
CC epithelial cells. The DNA encoding this factor was obtained by PCR
CC amplification of cDNA obtained using RNA from A549 cells. ENA-78 can
CC be used to treat neutrophil deficiency, ie. it can be used to
CC increase the number or enhance the activity to give a clinical
CC improvement in yeast, fungal or viral infections. It can be used in
CC inflammatory illnesses such as hyperproliferative skin diseases, such
CC as psoriasis, arthritic conditions and asthma, or in conditions of
CC abnormally low neutrophil count and/or generalised low neutrophil
CC level. ENA-78 may be used in the treatment of hematopoietic deficits
CC arising from chemotherapy or radiation therapy, for enhancing the
CC success of bone marrow transplants and for wound healing, burn
CC treatment and the treatment of bacterial infection.
SQ Sequence 72 AA;

Query Match 100.0%; Score 92; DB 7; Length 72;
 Best Local Similarity 100.0%; Pred. No. 2.30e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 47 eicldpeapflk 58
 :|||||
 QY 1 EICLDPEAPFLK 12

RESULT 2
 ID R70796 standard; Protein; 78 AA.
 AC R70796;
 DT 29-AUG-1995 (first entry)
 DE Inflammatory peptide ENA-78.
 KW Inflammatory peptide; ENA-78; heparanase; heparin; heparan sulfate;
 KW arthritis; restenosis; cancer; wound healing.
 OS Homo sapiens.
 PN WO9504158-A.
 PD 09-FEB-1995.
 PF 26-JUL-1994; U08207.
 PR 29-JUL-1993; US-099866.
 PR 13-OCT-1993; US-136117.
 PR (UPJO) UPJOHN CO.
 PI Hoogwerf AJ, Ledbetter SR;
 DR WPI; 95-082239/11.
 DR N-PSDB; O85366.
 PT Screening for cpds. with anti-heparanase activity - by detecting
 PT inhibition of heparin or heparan sulphate degradation,
 PT potentially useful for treating arthritis, restenosis, cancer.
 PS Claim 12; Page 43; 60pp; English.
 CC Activated heparanases, prepared under reducing conditions and
 CC purified with transglutaminase, are given in R70786-804. Most
 CC are prepared by reverse transcription of mRNA from activated human
 CC leukocytes, then cloning of the cDNA into pVL1392 baculovirus
 CC vector, and expression in Sf9 cells in the presence of reduced
 CC glutathione and dithiothreitol.
 SQ Sequence 78 AA;

Query Match 100.0%; Score 92; DB 13; Length 78;
 Best Local Similarity 100.0%; Pred. No. 2.30e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 53 eicldpeapflk 64
 :|||||
 QY 1 EICLDPEAPFLK 12

RESULT 3
 ID R55843 standard; protein; 75 AA.
 AC R55843;
 DT 09-NOV-1994 (first entry)
 DE Human GCP-2.
 KW GCP-2; granulocyte chemotactic protein-2; protease;
 KW antiinflammatory; osteosarcoma; MG-63.
 OS Homo sapiens.
 PN WO9412537-A.
 PD 09-JUN-1994.
 PF 26-NOV-1993; E03330.
 PR 27-NOV-1992; US-982539.
 PR (UYLE-) UNIV LEUVEN REGA INST.
 PI Proost P, Van Damme J;
 DR WPI; 94-200200/24.
 PT Pure mammalian granulocyte chemotactic protein-2 - which
 PT stimulates granulocytes to secrete protease, used to develop
 PT prods. for treating inflammatory conditions
 PS Disclosure; Page 29; 54pp; English.
 CC Human GCP-2 was isolated from human MG-63 osteosarcoma (ATCC CRL
 CC 1427) cells, and cattle GCP-2 was isolated from human
 CC cells. Naturally-occurring N-terminally truncated variants of human
 CC GCP-2 were also isolated and sequenced (R55845-47, R55849). A
 CC conserved region within mammalian GCP-2 is shown in sequence R55848.
 CC Expression of DNA encoding GCP-2 in a host cell will provide

CC recombinant protein of use as an antiinflammatory.
 SQ Sequence 75 AA;

Query Match 94.6%; Score 87; DB 10; Length 75;
 Best Local Similarity 83.3%; Pred. No. 9.37e-03;
 Matches 10; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Db 52 qvcldpeapflk 63
 :|||||
 QY 1 EICLDPEAPFLK 12

RESULT 4
 ID W36449 standard; Protein; 113 AA.
 AC W36449;
 DT 08-APR-1998 (first entry)
 DE Human chemokine alpha-3.
 KW Human; chemokine alpha-3;
 KW chronic infection; leukaemia; T-cell mediated autoimmune disease;
 KW parasitic infection; psoriasis; asthma; allergy; haematopoiesis;
 KW growth factor; angiogenesis; wound healing.
 OS Homo sapiens.
 PN WO9735027-A1.
 PD 25-SEP-1997.
 PF 18-MAR-1996; U03686.
 PR 18-MAR-1996; WO-U03686.
 PR (HUMA-) HUMAN GENOME SCI INC.
 PI Li H, Ni J, Su JY;
 DR WPI; 97-480232/44.
 DR N-PSDB; T91990.
 PT Polynucleotide(s) encoding human chemokine alpha-3 - used to treat
 PT tumours, chronic infections, autoimmune diseases, parasitic
 PT infections, psoriasis, asthma etc.
 PS Claim 13; Fig 1; 69pp; English.
 CC The present sequence is human chemokine alpha-3 (CK alpha-3),
 CC which can be used to treat tumours, chronic infections, leukaemia,
 CC T-cell mediated autoimmune diseases, parasitic infections,
 CC psoriasis, asthma and allergy. It can also be used to regulate
 CC haematopoiesis, stimulate growth factor activity, inhibit
 CC angiogenesis and promote wound healing.
 SQ Sequence 113 AA;

Query Match 94.6%; Score 87; DB 27; Length 113;
 Best Local Similarity 83.3%; Pred. No. 9.37e-03;
 Matches 10; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Db 89 qvcldpeapflk 100
 :|||||
 QY 1 EICLDPEAPFLK 12

RESULT 5
 ID W46286 standard; Protein; 114 AA.
 AC W46286;
 DT 06-AUG-1998 (first entry)
 DE Human granulocyte chemotactic protein 2 variant.
 KW Human; granulocyte chemotactic protein 2 variant; NGCP; leukaemia;
 KW chemokine; alpha-intercrine; chemo-attraction; immune deficiency;
 KW cancer; immune response.
 OS Homo sapiens.
 PN WO9811227-A1.
 PD 19-MAR-1998.
 PF 10-SEP-1997; U16034.
 PR 12-SEP-1996; US-713288.
 PR (INCY-) INCYTE PHARM INC.
 PI Bandman O, Coleman R, Murry LE;
 DR WPI; 98-207388/18.
 DR N-PSDB; V26372.
 PT Human granulocyte chemotactic protein 2 - useful for diagnosis and
 PT treatment of e.g. leukaemia
 PS Claim 1; Fig 1A-B; 59pp; English.
 CC The present sequence represents a novel human granulocyte chemotactic
 CC protein 2 (NGCP) variant. The protein, which belongs to the CXC

CC family of chemokines, has similarity to other alpha-interferons
 CC involved in the chemo-attraction and activation of leukocytes. The
 CC nucleic acid sequence encoding NGCP and the protein can be used in
 CC the diagnosis and treatment of diseases such as leukaemia and other
 CC cancer, immune deficiencies or excessive immune responses.
 SQ Sequence 114 AA;

Query Match 94.6%; Score 87; DB 31; Length 114;
 Best Local Similarity 83.3%; Pred. No. 9.37e-03;
 Matches 10; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Db 89 qvcldeapflk 100
 :|||||
 QY 1 EICLDPEAPFLK 12

RESULT 6
 ID R55844 standard; protein; 75 AA.
 AC R55844; 1994 (first entry)
 DE Cattle GCP-2.
 KW GCP-2; granulocyte chemotactic protein-2; protease;
 KW antiinflammatory; MGBK.
 OS Bos taurus.
 PN W09412537-A.
 PD 09-JUN-1994. E03330.
 PF 26-NOV-1993; US-982539.
 PR 27-NOV-1992; US-982539.
 PA (UYLE-) UNIV LEUVEN REGA INST.
 PI Proost P, Van Damme J;
 DR WPI; 94-200200/24.
 PT pure mammalian granulocyte chemotactic protein-2 - which
 PT stimulates granulocytes to secrete protease, used to develop
 PT prods. for treating inflammatory conditions
 PS Disclosure; Page 29; 54pp; English.
 CC Human GCP-2 (R55843) was isolated from human MG-63 osteosarcoma
 CC (ATCC CRL 1427) cells, and cattle GCP-2 from MGBK (ATCC CRL 6071)
 CC cells. Naturally-occurring N-terminally truncated variants of human
 CC GCP-2 were also isolated and sequenced (R55845-47, R55849). A
 CC conserved region within mammalian GCP-2 is shown in sequence R55848.
 CC Expression of DNA encoding GCP-2 in a host cell will provide
 CC recombinant protein of use as an antiinflammatory.
 SQ Sequence 75 AA;

Query Match 80.4%; Score 74; DB 10; Length 75;
 Best Local Similarity 75.0%; Pred. No. 3.35e-01;
 Matches 9; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

Db 52 evcldeapflk 63
 :|||||
 QY 1 EICLDPEAPFLK 12

RESULT 7
 ID W69596 standard; protein; 160 AA.
 AC W69596;
 DT 16-OCT-1998 (first entry)
 DE Mouse CXCLR201.1 chemokine protein.
 KW Mouse; CXCLR201.1; chemokine; G-protein coupled receptor; GPCR;
 KW 7 transmembrane receptor; inflammation; asthma; antiviral;
 KW abnormal cell proliferation; regeneration; degeneration; atrophy.
 OS Mus sp.
 PN Key Location/Qualifiers
 FT Peptide 1..18 /label= signal
 FT Protein 19..160 /label= CXCLR201.1
 FT W09831810-A2.
 PD 23-JUL-1998.
 PF 20-JAN-1998; U00218.
 PR 21-JAN-1997; US-786624.
 PA (SCHE) SCHERING CORP.
 PI Capone M, Gorman DM, Hedrick JA, Huffine CF, Rossi DL,

PI Vicari A, Zlotnik A;
 DR WPI; 98-414108/35.
 DR N-PSDB; V40371.
 PT pure or recombinant chemokine CXCLR201.1 - useful, e.g. for treating
 PT inflammation and as antiviral agents
 PS Claim 1; Page 60; 77pp; English.
 CC The present sequence represents mouse CXCLR201.1 chemokine protein
 CC which comprises a plurality of epitopes. Host cells containing vectors
 CC comprising a nucleotide sequence encoding the protein are used to
 CC produce recombinant protein. Treatment of a cell, particularly neuron,
 CC macrophage or lymphocyte, carrying a G-protein coupled receptor (GPCR)
 CC or a receptor responsive to CXCLR201.1 chemokine protein, with an
 CC (ant)agonist is used to control physiological development, e.g.
 CC alteration of calcium ion influx, a chemoattractant response, morphology,
 CC phosphoinositide lipid turnover or an antiviral response. Nucleotide
 CC sequences the CXCLR201.1 protein, or GPCRs, are useful as primers or
 CC probes, e.g. for detecting and isolating related sequences and for
 CC expressing antigenic peptides. Antibodies (Ab) directed against the
 CC CXCLR201.1 protein and GPCRs are used to detect or purify the proteins;
 CC diagnostically (e.g. for developmental abnormalities); in screening for
 CC potential drugs; to inhibit chemokine/receptor activation; (when coupled
 CC to a toxin or radioisotope) for killing specific cells, and to raise
 CC anti-idiotypic antibodies. CXCLR201.1 protein and GPCRs and compounds
 CC which bind them can be used to treat inflammation, e.g. asthma; as
 CC antiviral agents, and to treat abnormal cell proliferation, regeneration,
 CC degeneration and atrophy. Therapeutic agents are administered orally, by
 CC injection and rectally.
 SQ Sequence 160 AA;

Query Match 72.8%; Score 67; DB 34; Length 160;
 Best Local Similarity 72.7%; Pred. No. 2.17e+00;
 Matches 8; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 65 icldpdapwvk 75
 :|||||
 QY 2 ICLDPEAPFLK 12

RESULT 8
 ID W20061 standard; protein; 69 AA.
 AC W20061;
 DT 11-SEP-1997 (first entry)
 DE Human macrophage derived chemokine analogue.
 DE MDC; macrophage derived chemokine; C-C; Cys-Cys; Crohn's disease;
 KW rheumatoid arthritis; chemotaxis; fibroblast proliferation;
 KW wound healing; angiogenesis; inflammation.
 OS Synthetic.
 PN W09640923-A1.
 PD 19-DEC-1996.
 PF 07-JUN-1996; U10114.
 PR 07-JUN-1995; US-479620.
 PR 16-NOV-1995; US-558658.
 PA (ICOS-) ICOS CORP.
 PI Godiska R, Gray PW;
 DR WPI; 97-052324/05.
 PT Macrophage derived chemokine (MDC) and analogues - used in the
 PT treatment of inflammatory diseases, MDC antibodies used to treat
 PT Crohn's disease, rheumatoid arthritis, etc.
 PS Claim 25; Page 84; 106pp; English.
 CC A new macrophage derived chemokine, MDC, a member of the C-C
 CC (Cys-Cys) subfamily of cytokines has been isolated. MDC and it's
 CC analogues may be used in the treatment of inflammatory diseases
 CC especially diseases characterised by monocyte chemotaxis towards a
 CC site of inflammation. MDC and it's analogues also induce fibroblast
 CC proliferation having a positive effect in wound healing and
 CC angiogenesis. They may prove to be clinically important in the
 CC treatment of tumours, by directly or indirectly inhibiting tumour
 CC formation. Antibodies directed against MDC and its analogues may be
 CC used in the treatment of Crohn's disease, rheumatoid arthritis and
 CC atherosclerosis. Probes and/or primers for the identification of MDC
 CC encoding sequences can be derived from MDC encoding sequences.
 SQ Sequence 69 AA;

Query Match 59.6%; Score 64; DB 23; Length 69;
 Best Local Similarity 66.7%; Pred. No. 4.77e+00;
 Matches 8; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Db 50 eicadprvpylk 61
 ||||| :|||
 QY 1 EICLDPEAPFLK 12

RESULT 9
 ID R70805 standard; Protein; 32 AA.
 AC R70805;
 DT 29-AUG-1995 (first entry)
 DE Heparanase C-terminal peptide.
 KW Heparanase; heparin; heparan sulfate; arthritis; restenosis;
 KW cancer; wound healing.
 OS Synthetic.
 PN W09504158-A.
 PD 09-FEB-1995.
 PF 26-JUL-1994; U08207.
 PR 29-JUL-1993; US-099866.
 PR 13-OCT-1993; US-136117.
 PA (UPJO) UPJOHN CO.
 PI Hoogwerf AJ, Ledbetter SR;
 DR WPI; 95-082239/11.
 DR N-PSDB; Q85374.
 PT Screening for cpds. with anti-heparanase activity - by detecting
 PT inhibition of heparin or heparan sulphate degradation,
 PT potentially useful for treating arthritis, restenosis, cancer.
 PS Claim 17; Page 34; 60pp; English.
 CC Purified heparanases, prepared under reducing conditions and
 CC activated with transglutaminase, are given in R70786-804. In
 CC peptide synthesis, a C-terminal peptide (R70805, encoded by cDNA
 CC sequence Q85374) based on sequences for CTAP-III, platelet basic
 CC protein, beta-thromboglobulin and NAP-2, and an N-terminal peptide
 CC (R70809) based on CTAP-III and platelet basic protein were
 CC synthesized.
 CC Sequence 32 AA;

Query Match 67.4%; Score 62; DB 13; Length 32;
 Best Local Similarity 72.7%; Pred. No. 8.00e+00;
 Matches 8; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 16 icldpdaprik 26
 ||||| :|||
 QY 2 ICLDPEAPFLK 12

RESULT 10
 ID R70789 standard; Protein; 69 AA.
 AC R70789;
 DT 29-AUG-1995 (first entry)
 DE Neutrophil activating peptide-2.
 KW Neutrophil activating peptide-2.
 KW heparan sulfate; arthritis; restenosis; cancer; wound healing.
 OS Homo sapiens.
 PN W09504158-A.
 PD 09-FEB-1995.
 PF 26-JUL-1994; U08207.
 PR 29-JUL-1993; US-099866.
 PR 13-OCT-1993; US-136117.
 PA (UPJO) UPJOHN CO.
 PI Hoogwerf AJ, Ledbetter SR;
 DR WPI; 95-082239/11.
 DR N-PSDB; Q85359.
 PT Screening for cpds. with anti-heparanase activity - by detecting
 PT inhibition of heparin or heparan sulphate degradation,
 PT potentially useful for treating arthritis, restenosis, cancer.
 PS Claim 5; Page 36; 60pp; English.
 CC Purified heparanases, prepared under reducing conditions and
 CC activated with transglutaminase, are given in R70786-804. Most
 CC are prepared by reverse transcription of mRNA from activated human
 CC leukocytes, then cloning of the cDNA into pVL1392 baculovirus

CC vector, and expression in Sf9 cells in the presence of reduced
 CC glutathione and dithiothreitol.

Query Match 67.4%; Score 62; DB 13; Length 69;
 Best Local Similarity 72.7%; Pred. No. 8.00e+00;
 Matches 8; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 45 icldpdaprik 55
 ||||| :|||
 QY 2 ICLDPEAPFLK 12

RESULT 11

ID R86012 standard; peptide; 70 AA.
 AC R86012;
 DT 31-MAY-1996 (first entry)
 DE Synthetic NAP-2.
 KW NAP-2V; NAP-2; variant; neutrophil-activating peptide; bone growth;
 KW cleavage product; human; bone stimulating factor; osteoporosis;
 KW platelet alpha-granule component platelet basic protein; PBp.
 OS Synthetic.
 PN W09528172-A1.
 PD 26-OCT-1995.
 PF 11-APR-1995; CA0205.
 PR 18-APR-1994; US-229009.
 PA (OSTE-) OSTEOPHARM LTD.
 PI Tam CS;
 DR WPI; 95-373633/48.
 PT Stimulating bone growth in mammals with neutrophil activating
 PT peptide(s) - partic. for diagnosis and treatment of osteoporosis
 PS Claim 1; Page 23; 45pp; English.
 CC The sequences given in R86011-12 represent NAP-2V and NAP-2 which
 CC are a variant and the wild type form of the invention
 CC peptide. These peptides were used in the method of the invention
 CC for increasing bone growth. NAP-2V is a cleavage product of the
 CC platelet alpha-granule component platelet basic protein (PBp). It
 CC is related to NAP-2 in that NAP-2V has an additional 5 amino acids
 CC at its N-terminal. The N-terminal of NAP-2V resembles the N-
 CC terminus of human bone stimulating factor. These peptides are
 CC useful in the diagnosis and treatment of osteoporosis.
 CC Sequence 70 AA;

Query Match 67.4%; Score 62; DB 16; Length 70;
 Best Local Similarity 72.7%; Pred. No. 8.00e+00;
 Matches 8; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 46 icldpdaprik 56
 ||||| :|||
 QY 2 ICLDPEAPFLK 12

RESULT 12

ID R36775 standard; peptide; 70 AA.
 AC R36775;
 DT 07-SEP-1993 (first entry)
 DE NAP-2.
 KW Neutrophil-activating peptide-2; NAP-2; cathepsin D; cleavage;
 KW beta-thromboglobulin; precursor; alpha-granules; blood; platelet;
 KW connective-tissue-activating peptide III; CTAP-III; analog; clot;
 KW platelet basic protein; PRP.
 OS Synthetic.
 PN W09309794-A.
 PD 27-MAY-1993.
 PF 12-NOV-1992; U09663.
 PR 15-NOV-1991; US-792990.
 PA (UYPE-) UNIV PENNSYLVANIA.
 PI Gewirtz AM, Poncz M;
 DR WPI; 93-182235/22.
 PT Suppression of megakaryocytopoiesis - by administration of
 PT neutrophil activating peptide-2
 PS Disclosure; Page 17; 24pp; English.
 CC This sequence represents the amino acid sequence of neutrophil-

Sat, Feb 5 15:13:53 2000

CC activating peptide-2 (NAP-2). NAP-2 is a potent neutrophil activating agent produced by the cathepsin D-mediated cleavage of the eleven N-terminal amino acids of beta-thromboglobulin. It may also be generated by the cleavage of two inactive precursors, CC connective-tissue-activating peptide III (CTAP-III) and platelet basic protein (PRP), which are stored in the alpha-granules of blood platelets. NAP-2 or NAP-2 analogs, with homology of >80%, may be used to lower blood levels of circulating platelets and to reduce CC the clot forming abilities of these platelets.

CC Sequence 70 AA;

Query Match 67.4%; Score 62; DB 7; Length 70;

Best Local Similarity 72.7%; Pred. No. 8.00e+00; Indels 0; Gaps 0;

Matches 8; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 46 icldpdaprik 56
|||||:|:|

QY 2 ICLDPEAPFLK 12

RESULT 13

ID W26467 standard; Protein; 75 AA.

AC W26467;

DT 31-DEC-1997 (first entry)

DE Neutrophil-activating peptide variant NAP-2V.

KW Neutrophil-activating peptide-2; NAP-2V; bone stimulating factor;

KW osteoporosis; therapy.

OS Synthetic.

PN W09712036-A2.

PD 03-APR-1997.

PF 26-SEP-1996; CA0653.

PR 26-SEP-1995; US-004314.

PA (OSTE-) OSTEOPHARM LTD.

PI Tam CS;

DR WPI; 97-235534/21.

PT Neutrophil-activating peptide-2 variants which increase or promote mammalian bone growth - useful for prevention or treatment of bone reduction related diseases, especially osteoporosis

PT Claim 1; Page 21; 43pp; English.

PS This polypeptide comprises a variant, termed NAP-2V, of neutrophil-activating peptide (NAP-2). Novel claimed polypeptides (see also

CC W26468-70) that promote bone growth in mammals comprise NAP-2V

CC with (a) from 6-12 amino acid (AA) residues deleted from the

CC N-terminus, (b) 7-49 AA deleted from the C-terminus, or (c) both

CC (a) and (b), and contain no cysteine residues or at least 2

CC cysteine residues, preferably at positions 10 and 12. Also claimed

CC are: a chimeric bone stimulating factor comprising such

CC polypeptides; an antibody which binds to the polypeptides; DNA

CC fragments useful for recombinant production of the polypeptides;

CC and vectors comprising the DNA. The polypeptides are useful in the

CC prevention and treatment of bone reduction related disease, for

CC promotion of and increasing bone growth in mammals, especially for

CC the treatment of osteoporosis (claimed).

CC Sequence 75 AA;

Query Match 67.4%; Score 62; DB 25; Length 75;

Best Local Similarity 72.7%; Pred. No. 8.00e+00;

Matches 8; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 51 icldpdaprik 61
|||||:|:|

QY 2 ICLDPEAPFLK 12

RESULT 14

ID R86011 standard; peptide; 75 AA.

AC R86011;

DT 31-MAY-1996 (first entry)

DE Synthetic NAP-2V.

KW NAP-2V; NAP-2; variant; neutrophil-activating peptide; bone growth;

KW cleavage product; human; bone stimulating factor; osteoporosis;

KW platelet alpha-granule component platelet basic protein; PAP.

OS Synthetic.

Query Match

Best Local Similarity 72.7%; Pred. No. 8.00e+00;

Matches 8; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 51 icldpdaprik 61
|||||:|:|

QY 2 ICLDPEAPFLK 12

Query Match

Best Local Similarity 72.7%; Pred. No. 8.00e+00;

Matches 8; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 57 icldpdaprik 67
|||||:|:|

QY 2 ICLDPEAPFLK 12

Search completed: Fri Feb 4 17:14:53 2000

Job time : 21 secs.

PN W09528172-A1.

PD 26-OCT-1995.

PF 11-APR-1995; CA0205.

PR 18-APR-1994; US-229009.

PA (OSTE-) OSTEOPHARM LTD.

PI Tam CS;

DR WPI; 95-373633/48.

PT Stimulating bone growth in mammals with neutrophil activating peptide(s) - partic. for diagnosis and treatment of osteoporosis

PS Claim 1; Page 23; 45pp; English.

CC The sequences given in R86011-12 represent NAP-2V and NAP-2 which are a variant and the wild type form of neutrophil-activating peptide. These peptides were used in the method of the invention for increasing bone growth. NAP-2V is a cleavage product of the

CC platelet alpha-granule component platelet basic protein (PBP). It is related to NAP-2 in that NAP-2V has an additional 5 amino acids at its N-terminal. The N-terminal of NAP-2V resembles the N-

CC terminus of human bone stimulating factor. These peptides are useful in the diagnosis and treatment of osteoporosis.

CC Sequence 75 AA;

Query Match 67.4%; Score 62; DB 16; Length 75;

Best Local Similarity 72.7%; Pred. No. 8.00e+00;

Matches 8; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 51 icldpdaprik 61
|||||:|:|

QY 2 ICLDPEAPFLK 12

RESULT 15

ID R70788 standard; Protein; 81 AA.

AC R70788;

DT 29-AUG-1995 (first entry)

DE Beta-thromboglobulin; heparanase; heparin; heparan sulfate;

KW arthritis; restenosis; cancer; wound healing.

OS Homo sapiens.

PN W09504158-A.

PD 09-FEB-1995.

PF 26-JUL-1994; U08207.

PR 29-JUL-1993; US-099866.

PR 13-OCT-1993; US-136117.

PA (UPJO) UPJOHN CO.

PI Hoogwerf AJ, Ledbetter SR;

DR WPI; 95-082239/11.

CC N-PSDB; Q85358.

CC Screening for cpds. with anti-heparanase activity - by detecting inhibition of heparin or heparan sulphate degradation,

CC potentially useful for treating arthritis, restenosis, cancer.

PS Claim 5; Page 35; 60pp; English.

CC Purified heparanases, prepared under reducing conditions and activated with transglutaminase, are given in R70786-804. Most

CC are prepared by reverse transcription of mRNA from activated human

CC leukocytes, then cloning of the cDNA into pVL1392 baculovirus

CC vector, and expression in Sf9 cells in the presence of reduced

CC glutathione and dithiothreitol.

CC Sequence 81 AA;

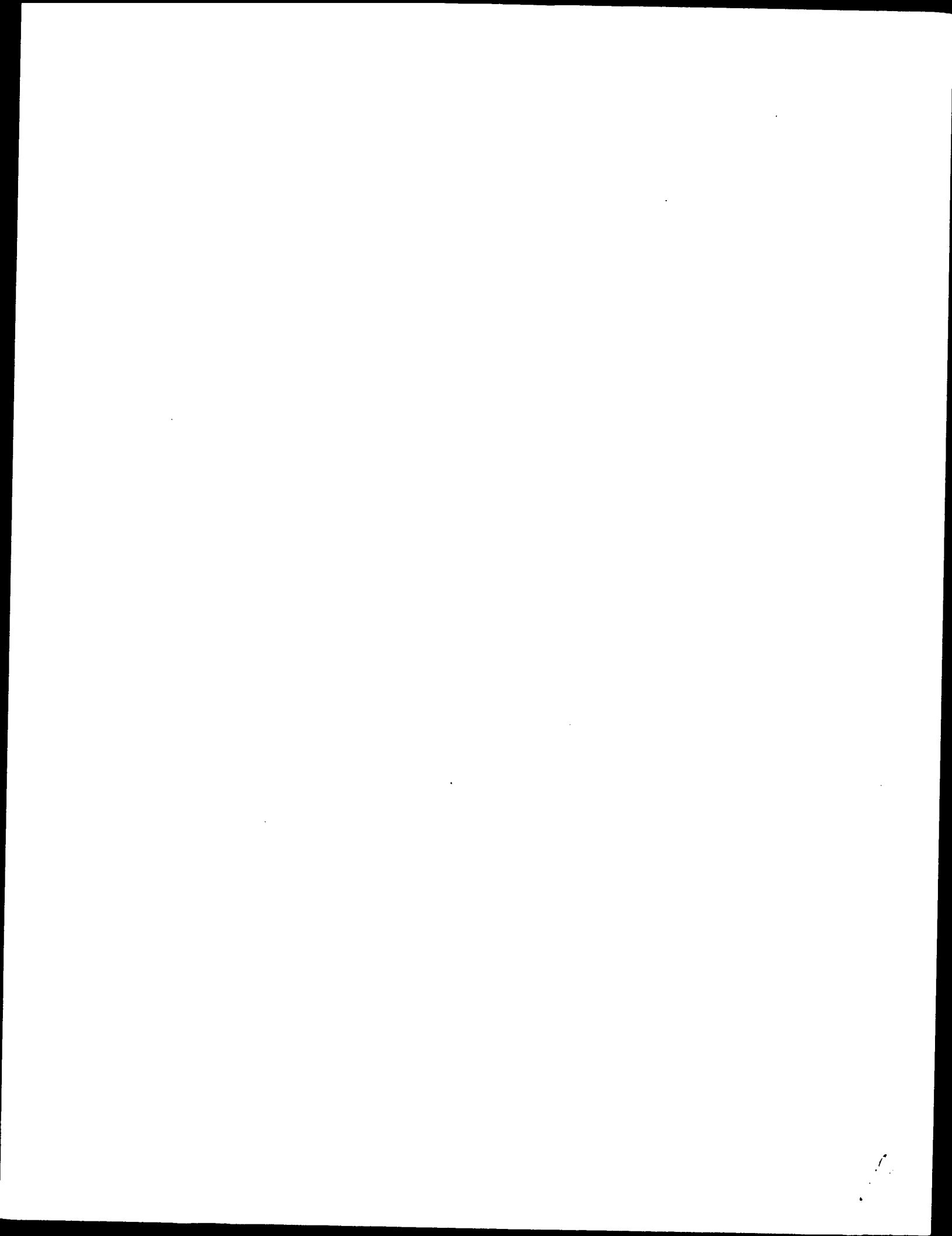
Query Match 67.4%; Score 62; DB 13; Length 81;

Best Local Similarity 72.7%; Pred. No. 8.00e+00;

Matches 8; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 57 icldpdaprik 67
|||||:|:|

QY 2 ICLDPEAPFLK 12



 W P S R L H

 (TM)

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MPSrch_pp protein - protein database search, using Smith-Waterman algorithm
 Run on: Fri Feb 4 17:22:26 2000; MasPar time 5.28 Seconds
 124.159 Million cell updates/sec
 Tabular output not generated.

Title: >US-09-150-813-42
 Description: (1-12) from US09150813.pep
 Perfect Score: 93
 Sequence: 1 QVCADPSEEWVQ 12

Scoring table: PAM 150
 Gap 15

Searched: 179066 seqs, 54579741 residues

Post-processing: Minimum Match 0%
 Listing first 45 summaries

Database: spiremb19
 1:sp_archaea 2:sp_bacteria 3:sp_fungi 4:sp_human
 5:sp_invertebrate 6:sp_mammal 7:sp_mhc 8:sp_organelle
 9:sp_phase 10:sp_plant 11:sp_rodent 12:sp_unclassified
 13:sp_vertebrate 14:sp_virus

Statistics: Mean 25.308; Variance 35.370; scale 0.716

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match | Length | DB ID | Description | Pred. No. |
|------------|-------|-------------|--------|-------|------------------------|-----------|
| 1 | 93 | 100.0 | 80 | 4 | Q14745 | 9.64e-08 |
| 2 | 79 | 84.9 | 120 | 4 | LD78 ALPHA BETA PRECUR | 1.41e-04 |
| 3 | 73 | 78.5 | 95 | 14 | IL-10-INDUCIBLE CHEMOK | 2.76e-03 |
| 4 | 72 | 77.4 | 119 | 4 | ORF K6. | 4.48e-03 |
| 5 | 68 | 73.1 | 109 | 4 | MPIF-2. | 3.03e-02 |
| 6 | 68 | 73.1 | 133 | 11 | CXC CHEMOKINE PRECURSO | 3.03e-02 |
| 7 | 68 | 73.1 | 133 | 11 | BETA CHEMOKINE EXODUS- | 4.85e-02 |
| 8 | 67 | 72.0 | 134 | 4 | SMALL INDUCIBLE CYTOKI | 4.85e-02 |
| 9 | 67 | 72.0 | 134 | 4 | VMIP-1b. | 4.85e-02 |
| 10 | 67 | 72.0 | 134 | 4 | BETA CHEMOKINE EXODUS- | 4.85e-02 |
| 11 | 67 | 72.0 | 395 | 11 | NEUROTACTIN. | 4.85e-02 |
| 12 | 66 | 71.0 | 395 | 11 | FRACTALKINE. | 7.73e-02 |
| 13 | 65 | 69.9 | 97 | 11 | CC CHEMOKINE ST38 PREC | 1.23e-01 |
| 14 | 64 | 68.8 | 91 | 4 | RANTES PRECURSOR. | 1.94e-01 |
| 15 | 63 | 67.7 | 397 | 4 | CX3C CHEMOKINE PRECURS | 3.06e-01 |
| 16 | 62 | 66.7 | 203 | 14 | ECO Q PROTEIN (FRAGEN | 4.80e-01 |
| 17 | 61 | 65.6 | 96 | 11 | CC CHEMOKINE EXODUS. | 7.50e-01 |
| 18 | 60 | 64.5 | 92 | 11 | CC CHEMOKINE ABCD-1. | 1.17e+00 |
| 19 | 60 | 64.5 | 95 | 4 | CC CHEMOKINE EXODUS. | 1.17e+00 |
| 20 | 60 | 64.5 | 97 | 13 | LYMPHOTACTIN PRECURSOR | 1.17e+00 |
| | 60 | 64.5 | 552 | 5 | RADIAL SPOKEHEAD. | 1.17e+00 |

21 60 64.5 949 5 P90956
 22 60 64.5 2180 5 Q01768
 23 59 63.4 104 13 Q73912
 24 59 63.4 321 2 Q69128
 25 58 62.4 93 4 Q00626
 26 58 62.4 97 6 Q62812
 27 58 62.4 108 11 Q70460
 28 58 62.4 448 2 P95531
 29 57 61.3 101 13 Q93442
 30 56 60.2 96 13 Q90825
 31 56 60.2 399 14 Q88409
 32 56 60.2 629 5 P91819
 33 56 60.2 857 13 P79708
 34 54 58.1 158 5 Q26381
 35 54 58.1 358 14 Q88520
 36 54 58.1 489 10 Q49123
 37 54 58.1 801 6 Q62817
 38 54 58.1 801 6 Q77619
 39 54 58.1 879 5 Q76978
 40 54 58.1 1089 5 Q26155
 41 54 58.1 1142 4 Q14324
 42 54 58.1 4199 2 P74440
 43 53 57.0 106 2 Q49811
 44 53 57.0 339 5 Q17996
 45 53 57.0 570 11 Q61093

ALIGNMENTS

RESULT 1 PRELIMINARY; PRT; 80 AA.
 ID Q14745
 AC Q14745;
 DT 01-NOV-1996 (TREMREL. 01, CREATED)
 DT 01-NOV-1996 (TREMREL. 01, LAST SEQUENCE UPDATE)
 DE 01-JAN-1999 (TREMREL. 09, LAST ANNOTATION UPDATE)
 DE LD78 ALPHA BETA PRECURSOR (FRAGMENT).
 OS HOMO SAPIENS (HUMAN)
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
 OC CATARRHINI; HOMINIDAE; HOMO.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=BRAIN;
 RA ISHIZUKA K., IGATA-YI R., NARUSE K., NAKASHIMA H., OHUCHI K.,
 RA KATSURAGI S., KIN Y., OHMOTO Y., NOMIYAMA H., IIO M., MIURA R.,
 RA MIYAKAWA T.;
 RL SUBMITTED (AUG-1995) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL; D63785; D1010501; -;
 DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
 DR PFAM; PF00048; i18; 1.
 KW SIGNAL.
 FT NON_TER 1 1
 FT SIGNAL <1 16
 FT CHAIN 17 >80
 FT NON_TER 80 80
 SQ SEQUENCE 80 AA; 8857 MW; 3F87F1C6 CRC32;
 Query Match 100.0%; Score 93; DB 4; Length 80;
 Best Local Similarity 100.0%; Pred. No. 9.64e-08;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 65 QVCADPSEEWVQ 76
 QY 1 QVCADPSEEWVQ 12

RESULT 2 PRELIMINARY; PRT; 120 AA.
 ID Q15467;
 AC Q15467;
 DT 01-JAN-1998 (TREMREL. 05, CREATED)
 DT 01-JAN-1998 (TREMREL. 05, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMREL. 08, LAST ANNOTATION UPDATE)
 DE IL-10-INDUCIBLE CHEMOKINE.
 GN ILINCK OR SCYLA16.

OS HOMO SAPIENS (HUMAN).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
 OC CATARRHINI; HOMINIDAE; HOMO.
 RN [1]
 RP SEQUENCE FROM N.A.
 RA HEDRICK J.A., HELMS A., GORMAN D., ZLOTNIK A.;
 RL SUBMITTED (NOV-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [2]
 RP SEQUENCE FROM N.A.
 RA SHOUAI K., HISHIMA K., FUKUDA S., ITO M., MIURA R., IMAI T.,
 RL BIOCHIM. BIOPHYS. ACTA 0:0-0(1998).
 RN [3]
 RP SEQUENCE FROM N.A.
 RA NOMIYAMA H.;
 RL "Structure of a region of 181 kb containing five CC chemokine
 genes";
 RT SUBMITTED (AUG-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [4]
 RP SEQUENCE FROM N.A.
 RA YOUN B.S., ZHANG S., BROXMEYER H.E., ANTOL K., FRASER M.J. JR.,
 RL HANGOC G., KWON B.S.;
 RT "Isolation and characterization of LMC, a novel lymphocyte and
 monocyte chemoattractant human CC chemokine, with myelosuppressive
 activity";
 RL BIOCHEM. BIOPHYS. RES. COMMUN. 247:217-222(1998).
 DR EMBL; U91746; G2581781; -;
 DR EMBL; AB007454; D1024963; -;
 DR EMBL; AF088219; G3719365; -;
 DR EMBL; AF055467; G3395776; -;
 DR PFAM; PF00048; 118; 1.
 KW SIGNAL.
 SQ SEQUENCE 120 AA; 13600 MW; A079DF66 CRC32;
 Query Match 84.9%; Score 79; DB 4; Length 120;
 Best Local Similarity 50.0%; Pred. No. 1.41e-04;
 Matches 6; Conservative 6; Mismatches 0; Indels 0; Gaps 0;
 Db 74 EVCNPNDDWVQ 85
 QY 1 QVCADPSEEWVQ 12
 RESULT 3
 ID Q98158 PRELIMINARY; PRT; 95 AA.
 AC Q98158; 012569;
 DT 01-FEB-1997 (TREMBLREL. 02, CREATED)
 DT 01-JUL-1997 (TREMBLREL. 04, LAST SEQUENCE UPDATE)
 DE ORF K6.
 OS KAPOSI'S SARCOMA-ASSOCIATED HERPESVIRUS.
 OC VIRUSES; DSDNA VIRUSES, NO RNA STAGE; HERPESVIRIDAE;
 OC GAMMAHERPESVIRINAE; RHADINOVIRUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 97094384.
 RA MOORE P.S., BASHOFF C., WEISS R.A., CHANG Y.;
 RT "Molecular mimicry of human cytokine and cytokine response pathway
 genes by KSHV";
 RL SCIENCE 274:1739-1744(1996).
 RN [2]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 97121480.
 RA RUSSO J.J., BOHENZKY R.A., CHIEN M.C., CHEN J., YAN M., MADDALENA D.,
 RA PARRY J.P., PERUZZI D., EDELMAN I.S., CHANG Y., MOORE P.S.;
 RT "Nucleotide sequence of the Kaposi sarcoma-associated herpesvirus
 (HHV8)";
 RL PROC. NATL. ACAD. SCI. U.S.A. 93:14862-14867(1996).
 RN [3]
 RP SEQUENCE FROM N.A.
 RA RUSSO J.J., BOHENZKY R.A., CHIEN M.C., CHEN J., YAN M., MADDALENA D.,

RA PARRY J.P., PERUZZI D., EDELMAN I.S., CHANG Y., MOORE P.S.;
 RL SUBMITTED (OCT-1996) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [4]
 RP SEQUENCE FROM N.A.
 RA NICHOLAS J., RUVOLO V.R., BURNS W.H., SANDFORD G., WAN X., CIUFO D.,
 RA HENDRICKSON S., GUO H.G., HAYWARD G.S., REITZ M.S.;
 RL SUBMITTED (NOV-1996) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [5]
 RP SEQUENCE FROM N.A.
 RA RUSSO J.J., BOHENZKY R.A., CHIEN M.C., CHEN J., YAN M., MADDALENA D.,
 RA PARRY J.P., PERUZZI D., EDELMAN I.S., CHANG Y., MOORE P.S.;
 RL SUBMITTED (MAY-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [6]
 RP SEQUENCE FROM N.A.
 RA NEIPEL F., ALBRECHT J.C., FLECKENSTEIN B.;
 RL "Cell-homologous genes in the Kaposi's sarcoma-associated
 rhadinovirus human herpesvirus 8: determinants of its
 pathogenicity";
 RL J. VIROL. 71:4187-4192(1997).
 RN [7]
 RP SEQUENCE FROM N.A.
 RA SUN R., LIN S.-F., MILLER G.;
 RL SUBMITTED (SEP-1996) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL; U75698; G1718266; -;
 DR EMBL; U74585; G1658273; -;
 DR EMBL; U93872; G2246546; -;
 DR EMBL; U71366; G3551763; -;
 DR PFAM; PF00048; 118; 1.
 KW HYPOTHETICAL PROTEIN.
 SQ SEQUENCE 95 AA; 10485 MW; 5283348D CRC32;
 Query Match 78.5%; Score 73; DB 14; Length 95;
 Best Local Similarity 66.7%; Pred. No. 2.76e-03;
 Matches 8; Conservative 3; Mismatches 1; Indels 0; Gaps 0;
 Db 74 QICADPCKNWVR 85
 QY 1 QVCADPSEEWVQ 12
 RESULT 4
 ID Q00175 PRELIMINARY; PRT; 119 AA.
 AC Q00175;
 DT 01-JUL-1997 (TREMBLREL. 04, CREATED)
 DT 01-JUL-1997 (TREMBLREL. 04, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
 DE MP1F-2.
 OS HOMO SAPIENS (HUMAN).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
 OC CATARRHINI; HOMINIDAE; HOMO.
 RN [1]
 RP SEQUENCE FROM N.A.
 RA PATEL V.P., KREIDER B.L., LI Y., LI H., LEUNG K., SALCEDO T.,
 RA NARDELLI B., PIPPALLA V., GENTZ S., THOTAKURA R., PARMELEE D.,
 RA GENTZ R., GAROTTA G.;
 RL J. EXP. MED. 0:0-0(0).
 DR EMBL; U85768; G1916252; -;
 DR PFAM; PF00048; 118; 1.
 SQ SEQUENCE 119 AA; 13119 MW; CDF526F0 CRC32;
 Query Match 77.4%; Score 72; DB 4; Length 119;
 Best Local Similarity 66.7%; Pred. No. 4.48e-03;
 Matches 8; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
 Db 72 QFCADPKQEWVQ 83
 QY 1 QVCADPSEEWVQ 12
 RESULT 5
 ID Q43927 PRELIMINARY; PRT; 109 AA.
 AC Q43927;

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01-JUN-1998 (TREMREL. 06, CREATED)
 01-JUN-1998 (TREMREL. 06, LAST SEQUENCE UPDATE)
 01-NOV-1998 (TREMREL. 08, LAST ANNOTATION UPDATE)
 DE BXA-1.
 GN CCA-1.
 OS HOMO SAPIENS (HUMAN).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
 OC CATARRHINI; HOMINIDAE; HOMO.
 RN [1]
 RN SEQUENCE FROM N.A.
 RP MEDLINE; 98130629.
 RA LEGER D.F., LOETSCHER M., STUBER ROOS R., CLARK-LEWIS I.,
 RA BAGGTOLINI M., MOSER B.;
 RT "A call-attracting chemokine 1, a human CXC chemokine expressed in
 lymphoid tissues, selectively attracts B lymphocytes via
 BLR1/CXCR5.";
 RL J. EXP. MED. 187:655-660(1998).
 RN [2]
 RN SEQUENCE FROM N.A.
 RP MEDLINE; 98146056.
 RA GUNN M.D., NGO V.N., ANSEL K.M., EKLAND E.H., CYSTER J.G.,
 RA WILLIAMS L.T.;
 RT "A B-cell-homing chemokine made in lymphoid follicles activates
 Burkitt's lymphoma receptor-1.";
 RL NATURE 391:799-803(1998).
 RN [3]
 RN SEQUENCE FROM N.A.
 RA NAPOLITANO M., SPINETTI G., GAETANO C., CAPOGROSSI C.M.;
 RL SUBMITTED (OCT-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL; AJ002211; E1249325; -;
 DR EMBL; AF044197; G2911376; -;
 DR EMBL; AF029894; G3169814; -;
 KW SIGNAL.
 FT SIGNAL.
 FT CHAIN.
 FT SEQUENCE 109 AA; 12664 MW; BE5A46BC CRC32;
 Query Match 73.1%; Score 68; DB 4; Length 109;
 Best Local Similarity 63.6%; Pred. No. 3.03e-02;
 Matches 7; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
 Db 75 VCVDPQAEWQ 85
 QY 2 VCAPDPSEWVQ 12
 RESULT 6
 ID O09006 PRELIMINARY; PRT; 133 AA.
 AC O09006;
 DT 01-JUL-1997 (TREMREL. 04, CREATED)
 DT 01-AUG-1998 (TREMREL. 07, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMREL. 08, LAST ANNOTATION UPDATE)
 DE BETA CHEMOKINE EXODUS-2.
 GN SCY21.
 OS MUS MUSCULUS (MOUSE).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
 OC SCIUROGNATHI; MURIDAE; MURINAE; MUS.
 RN [1]
 RN SEQUENCE FROM N.A.
 RP TISSUE-TOTAL FETUS;
 RX MEDLINE; 97444139.
 RA HROMAS R., KIM C.H., KLEMSZ M., KRATHWOHL M., FIFE K., COOPER S.,
 RA SCHNIZLEIN-BICK C., BROXMEYER H.E.;
 RT "Isolation and characterization of Exodus-2, a novel C-C chemokine
 with a unique 37-amino acid carboxyl-terminal extension.";
 RL J. IMMUNOL. 159:2554-2558(1997).
 RN [2]
 RN SEQUENCE FROM N.A.
 RP TISSUE-TOTAL FETUS;
 RX HROMAS R.A.;
 RL SUBMITTED (JUN-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL; U88322; G3169697; -;
 DR MGD; MGI:1097677; SCY21.

DR PFAM; PF00048; i18; 1.
 SQ SEQUENCE 133 AA; 14600 MW; B34A5E22 CRC32;
 Query Match 73.1%; Score 68; DB 11; Length 133;
 Best Local Similarity 58.3%; Pred. No. 3.03e-02;
 Matches 7; Conservative 3; Mismatches 2; Indels 0; Gaps 0;
 Db 73 ELCANPEGWVQ 84
 QY 1 QVCADPSEWVQ 12
 RESULT 7
 ID O09002 PRELIMINARY; PRT; 133 AA.
 AC O09002;
 DT 01-JUL-1997 (TREMREL. 04, CREATED)
 DT 01-JUL-1997 (TREMREL. 04, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMREL. 08, LAST ANNOTATION UPDATE)
 DE SMALL INDUCIBLE CYTOKINE A21 (TCA4).
 GN SCY21.
 OS MUS MUSCULUS (MOUSE).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
 OC SCIUROGNATHI; MURIDAE; MURINAE; MUS.
 RN [1]
 RN SEQUENCE FROM N.A.
 RP TISSUE-THYMUS;
 RC TANABE S., LU Z., LUO Y., QUACKENBUSH E.J., BERMAN M.A.,
 RA COLLINS-RACIE L.A., MI S., REILLY C., LO D., JACOBS K.A., DORF M.E.;
 RL SUBMITTED (JUN-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [2]
 RN SEQUENCE FROM N.A.
 RP MEDLINE; 97400322.
 RX HEDRICK J.A., ZLOTNIK A.;
 RT "Identification and characterization of a novel beta chemokine
 containing six conserved cysteines.";
 RL J. IMMUNOL. 159:1589-1593(1997).
 RN [3]
 RN SEQUENCE FROM N.A.
 RA HEDRICK J.A., ZLOTNIK A.;
 RL SUBMITTED (MAY-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 DR EMBL; AF006637; G2209189; -;
 DR EMBL; AF001980; G2624927; -;
 DR MGD; MGI:1097677; SCY21.
 DR PFAM; PF00048; i18; 1.
 SQ SEQUENCE 133 AA; 14558 MW; C0532523 CRC32;
 Query Match 73.1%; Score 68; DB 11; Length 133;
 Best Local Similarity 58.3%; Pred. No. 3.03e-02;
 Matches 7; Conservative 3; Mismatches 2; Indels 0; Gaps 0;
 Db 73 ELCANPEGWVQ 84
 QY 1 QVCADPSEWVQ 12
 RESULT 8
 ID O98157 PRELIMINARY; PRT; 94 AA.
 AC O98157;
 DT 01-FEB-1997 (TREMREL. 02, CREATED)
 DT 01-FEB-1997 (TREMREL. 02, LAST SEQUENCE UPDATE)
 DT 01-NOV-1998 (TREMREL. 08, LAST ANNOTATION UPDATE)
 DE VMP-1B.
 OS KAPOSI'S SARCOMA-ASSOCIATED HERPES-LIKE VIRUS,
 OS AND KAPOSI'S SARCOMA-ASSOCIATED HERPESVIRUS;
 OC VIRUSES; DSDNA VIRUSES, NO RNA STAGE; HERPESVIRIDAE;
 OC GAMMAHERPESVIRINAE; RHADINOVIRUS.
 RN [1]
 RN SEQUENCE FROM N.A.
 RP NICHOLAS J., RUVOLO V.R., BURNS W.H., SANDFORD G., WAN X., CIUFO D.,
 RA HENDRICKSON S., GUO H.G., HAYWARD G.S., REITZ M.S.;
 RL SUBMITTED (SEP-1996) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [2]
 RN SEQUENCE FROM N.A.

| | |
|---|---|
| <p>[3] RP SEQUENCE FROM N.A. RA HEDRICK J.A., ZLOTNIK A.; RL SUBMITTED (MAY-1997) TO EMBL/GENBANK/DBJ DATA BANKS. [4] RP SEQUENCE FROM N.A. RA NAGIRA M., IMAI T., HIESHIMA K., KUSUDA J., RIDANPAA M., TAKAGI S., RA NISHIMURA M., KAKIZAKI M., NOMIYAMA H., YOSHIE O.; RL SUBMITTED (AUG-1997) TO EMBL/GENBANK/DBJ DATA BANKS. DR EMBL; U88320; G2196920; DR EMBL; AF001979; G2624925; DR EMBL; AB002409; D1022673; DR PFAM; PF00048; i18; 1; SQ SEQUENCE 134 AA; 14646 MW; FE86A239 CRC32;</p> | <p>Query Match 72.0%; Score 67; DB 4; Length 134; Best Local Similarity 66.7%; Pred. No. 4,85e-02; Matches 8; Conservative 2; Mismatches 2; Indels 0; Gaps</p> |
| <p>Db 73 ELCDPDKELWQ 84 QY 1 QVCDPSEEWQ 12 : : </p> | |
| <p>RESULT 10 ID O35188 PRELIMINARY; PRT; 395 AA. AC O35188; DT 01-JAN-1998 (TREMBLREL. 05, CREATED) DT 01-JAN-1998 (TREMBLREL. 05, LAST SEQUENCE UPDATE) DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE) DE NEUROTACTIN. GN SCYD1. OS MUS MUSCULUS (MOUSE). OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA OC SCUROGNATHI; MURIDAE; MURINAE; MUS. RN [1] RP SEQUENCE FROM N.A. RX MEDLINE; 97320499. RA PAN Y., CLARE L., HONG Z., DOLICH S., DEEDS J., GONZALO J., VATH J., RA GOSSELIN M., MA J., DUSSAULT B., WOOLF B., ALPERIN A., CULPEPPER J., RA GUTIERREZ-RAMOS J.C., GEARING D.; RT "Neurotactin, a membrane-anchored chemokine upregulated in brain inflammation." RL NATURE 387:611-617(1997). DR EMBL; AF010586; G2317698; DR MGD; MGI:1097153; SCYD1. DR PFAM; PF00048; i18; 1. SQ SEQUENCE 395 AA; 42098 MW; E3CD0612 CRC32;</p> | <p>Query Match 72.0%; Score 67; DB 11; Length 395; Best Local Similarity 80.0%; Pred. No. 4,85e-02; Matches 8; Conservative 0; Mismatches 2; Indels 0; Gaps</p> |
| <p>Db 74 CADPKEKWQ 83 QY 3 CADPSEEWQ 12 </p> | |
| <p>RESULT 11 ID O35933 PRELIMINARY; PRT; 395 AA. AC O35933; DT 01-JAN-1998 (TREMBLREL. 05, CREATED) DT 01-JAN-1998 (TREMBLREL. 05, LAST SEQUENCE UPDATE) DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE) DE FRACTALKINE. OS MUS MUSCULUS (MOUSE). OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA OC SCUROGNATHI; MURIDAE; MURINAE; MUS. RN [1] RP SEQUENCE FROM N.A. RC STRAIN-BALB/C; TISSUE=BRAIN; RA ROSSI D., HARDIMAN G., COPELAND N., GILBERT D.J., JENKINS N., ZLOTNIK A., BAZAN J.F.;</p> | |

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RL SUBMITTED (MAR-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL; U92565; G2459677; -.
DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
KW SIGNAL. 1 23 POTENTIAL.
FT CHAIN 24 91 RANTES.
SQ SEQUENCE 395 AA; 42040 MW; 3997A113 CRC32;

Query Match 72.0%; Score 67; DB 11; Length 395;
Best Local Similarity 80.0%; Pred. No. 4.85e-02;
Matches 8; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Db 74 CADPKEKWVQ 83
QY 3 CADPSEEWVQ 12
|||||

RESULT 12 PRELIMINARY; PRT; 97 AA.
ID O89093
AC O89093;
DT 01-NOV-1998 (TREMBLREL. 08, CREATED)
DT 01-NOV-1998 (TREMBLREL. 08, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE CC CHEMOKINE ST38 PRECURSOR.
DE LARC.
GN MUS MUSCULUS (MOUSE).
OS MUS MUSCULUS (MOUSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
OC SCUROGNATHI; MORIDAE; MURINAE; MUS.
RN [1]
RP SEQUENCE FROM N.A.
RA UTANS-SCHNEITZ U., LOREZ H., KLINKERT W.E.F., DA SILVA J.,
RA LESSLAUER W.;
RT "A novel rat CC chemokine, identified by targeted differential
RT display, is upregulated in brain inflammation.";
RL J. NEUROIMMUNOL. 0:0-0(1998).
RN [2]
RP SEQUENCE FROM N.A.
RA VILLARES R.;
RL SUBMITTED (JUL-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL; AF053313; G3551819; -.
DR EMBL; AJ007862; E1312757; -.
KW SIGNAL. 1 27 POTENTIAL.
FT CHAIN 28 97 CC CHEMOKINE ST38.
SQ SEQUENCE 97 AA; 10826 MW; 053405BD CRC32;

Query Match 71.0%; Score 66; DB 11; Length 97;
Best Local Similarity 70.0%; Pred. No. 7.73e-02;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 74 VCADPKQNVV 83
QY 2 VCADPSEEWV 11
|||||

RESULT 13 PRELIMINARY; PRT; 91 AA.
ID O43646
AC O43646;
DT 01-JUN-1998 (TREMBLREL. 06, CREATED)
DT 01-JUN-1998 (TREMBLREL. 06, LAST SEQUENCE UPDATE)
DT 01-JUN-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE RANTES PRECURSOR.
DE SCYAS.
GN HOMO SAPIENS (HUMAN).
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RA JANG J.S., KIM B.E.;
RL SUBMITTED (JAN-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [2]
RP SEQUENCE FROM N.A.
RA NOMIYAMA H.;
RT "Structure of a region of 181 kb containing five CC chemokine
RT genes";
RL SUBMITTED (AUG-1998) TO EMBL/GENBANK/DBJ DATA BANKS.

DR EMBL; AF043341; G2905632; -.
DR EMBL; AF088219; G3719366; -.
DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
KW SIGNAL. 1 23 POTENTIAL.
FT CHAIN 24 91 RANTES.
SQ SEQUENCE 91 AA; 9990 MW; CF404FAD CRC32;

Query Match 69.9%; Score 65; DB 4; Length 91;
Best Local Similarity 58.3%; Pred. No. 1.23e-01;
Matches 7; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

Db 71 QVCANPEKKWVR 82
QY 1 QVCADPSEEWVQ 12
|||||

RESULT 14 PRELIMINARY; PRT; 397 AA.
ID P78423
AC P78423; O00672;
DT 01-MAY-1997 (TREMBLREL. 03, CREATED)
DT 01-MAY-1997 (TREMBLREL. 03, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE CX3C CHEMOKINE PRECURSOR.
DE A-152E5.2.
GN A-152E5.2.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
OC CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RA MEDLINE; 9717711.
RA BAZAN J.E., BACON K.B., HARDIMAN G., WANG W., SOO K., ROSSI D.,
RA GREAVES D.R., ZLOTNIK A., SCHALL T.J.;
RT "A new class of membrane-bound chemokine with a CX3C motif.";
RL NATURE 385:640-644(1997).
RN [2]
RP SEQUENCE FROM N.A.
RA ADAMS M.D., LOFTUS B.J., ZHOU L., CROSBY M., FUHRMANN J., MASON T.M.,
RA BRANDON R., KIM U.J., KERLAVAGE A.R., VENTER J.C.;
RT "Homo sapiens Chromosome 16 BAC clone CIT987SK-A-152E5.";
RL SUBMITTED (JUN-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
DR EMBL; U91835; G1899259; -.
DR EMBL; U84487; G1888523; -.
DR EMBL; AC004382; G3252821; -.
DR PFAM; PF00048; i18; 1.
KW SIGNAL. 1 24 POTENTIAL.
FT CHAIN 25 397 CX3C CHEMOKINE.
SQ SEQUENCE 397 AA; 42202 MW; C8093D7D CRC32;

Query Match 68.8%; Score 64; DB 4; Length 397;
Best Local Similarity 77.8%; Pred. No. 1.94e-01;
Matches 7; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 74 CADPKEKWV 82
QY 3 CADPSEEWV 11
|||||

RESULT 15 PRELIMINARY; PRT; 203 AA.
ID Q67634
AC Q67634;
DT 01-NOV-1996 (TREMBLREL. 01, CREATED)
DT 01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)
DT 01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
DE ECO Q PROTEIN (FRAGMENT).
DE GALLID HERPESVIRUS TYPE 1.
OS GALLID HERPESVIRUS TYPE 1.
OC VIRUSES; DSDNA VIRUSES; NO RNA STAGE; HERPESVIRIDAE;
OC ALPHAPERFESVIRINAE; VARICELLOVIRUS.
RN [1]
RP SEQUENCE FROM N.A.
RA STRAIN-GA;
RT MEDLINE; 96074534.

```

RA PENG Q., ZENG M., BHUIYAN Z.A., UBUKATA E., TANAKA A., NONOYAMA M.,
 RA SHIRAZI Y.,
 RT "Isolation and characterization of Marek's disease virus (MDV) cDNAs
 RT mapping to the BamHI-I2, BamHI-Q2, and BamHI-L fragments of the MDV
 RT genome from lymphoblastoid cells transformed and persistently
 RT infected with MDV.",
 RL VIROLOGY 213:590-599(1995).
 DR EMBL; U34966; G1185444; -.
 DR PFAM; PF00048; i18; 1.
 FT NON_TER
 SQ SEQUENCE 203 AA; 23132 MW; 887D04C3 CRC32;

Query Match 67.7%; Score 63; DB 14; Length 203;
 Best Local Similarity 63.6%; Pred.No. 3.06e-01;
 Matches 7; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

Db 145 VCVDPFAPWQ 155

QY 2 VCAPFSEWQ 12

Search completed: Fri Feb 4 17:23:23 2000
 Job time : 57 secs.

 W P S R L H
 (TM)

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MPSrch_pp protein - protein database search, using Smith-Waterman algorithm

Run on: Fri Feb 4 17:22:02 2000; MasPar time 2.55 Seconds
 Tabular output not generated. 132.908 Million cell updates/sec

Title: >US-09-150-813-42
 Description: (1-12) from US09150813.pap
 Perfect Score: 93
 Sequence: 1 QVCADPSEWVQ 12

Scoring table: PAM 150
 Gap 15

Searched: 77977 seqs, 28268293 residues

Post-processing: Minimum Match 0%
 Listing first 45 summaries

Database: swiss-prot37
 1:swissprot

Statistics: Mean 25.461; Variance 34.416; scale 0.740

pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match | Length | ID | Description | Pred. No. |
|------------|-------|-------------|--------|----|-----------------------------------|-----------|
| 1 | 93 | 100.0 | 92 | 1 | M11A_HUMAN MACROPHAGE INFLAMMATOR | 2.07e-08 |
| 2 | 93 | 100.0 | 93 | 1 | M110_HUMAN TONSILLAR LYMPHOCYTE L | 2.07e-08 |
| 3 | 86 | 92.5 | 92 | 1 | M11B_HUMAN MACROPHAGE INFLAMMATOR | 9.35e-07 |
| 4 | 83 | 89.2 | 92 | 1 | M11B_RABIT MACROPHAGE INFLAMMATOR | 4.63e-06 |
| 5 | 78 | 83.9 | 92 | 1 | M11A_RAT MACROPHAGE INFLAMMATOR | 6.33e-05 |
| 6 | 77 | 82.8 | 120 | 1 | MCP1_CAVPO MONOCYTE CHEMOTACTIC P | 1.06e-04 |
| 7 | 77 | 82.8 | 148 | 1 | MCP1_MOUSE MONOCYTE CHEMOTACTIC P | 1.06e-04 |
| 8 | 77 | 82.8 | 148 | 1 | MCP1_MOUSE MONOCYTE CHEMOTACTIC P | 1.06e-04 |
| 9 | 76 | 81.7 | 92 | 1 | M11B_RAT MACROPHAGE INFLAMMATOR | 1.77e-04 |
| 10 | 75 | 80.6 | 90 | 1 | M11B_CHICK MACROPHAGE INFLAMMATOR | 2.94e-04 |
| 11 | 75 | 80.6 | 98 | 1 | MCP4_HUMAN MONOCYTE CHEMOTACTIC P | 2.94e-04 |
| 12 | 75 | 80.6 | 99 | 1 | MCP3_HUMAN MONOCYTE CHEMOTACTIC P | 2.94e-04 |
| 13 | 74 | 79.6 | 89 | 1 | M1P4_HUMAN MACROPHAGE INFLAMMATOR | 4.88e-04 |
| 14 | 73 | 78.5 | 92 | 1 | M11B_MOUSE MACROPHAGE INFLAMMATOR | 8.08e-04 |
| 15 | 73 | 78.5 | 93 | 1 | CC11_HUMAN CHEMOKINE CC-1 PRECURS | 8.08e-04 |
| 16 | 73 | 78.5 | 99 | 1 | MCP2_PIG CHEMOKINE CC-3 PRECURS | 8.08e-04 |
| 17 | 73 | 78.5 | 109 | 1 | CC33_HUMAN MONOCYTE CHEMOTACTIC P | 1.33e-03 |
| 18 | 72 | 77.4 | 99 | 1 | MCP2_BOVIN MONOCYTE CHEMOTACTIC P | 1.33e-03 |
| 19 | 72 | 77.4 | 99 | 1 | MCP1_HUMAN MONOCYTE CHEMOTACTIC P | 1.33e-03 |
| 20 | 72 | 77.4 | 101 | 1 | MCP1_CANFA MONOCYTE CHEMOTACTIC P | 1.33e-03 |
| 21 | 71 | 76.3 | 91 | 1 | S1SD_MOUSE T-CELL SPECIFIC RANTES | 2.19e-03 |
| 22 | 71 | 76.3 | 92 | 1 | S1SD_RAT T-CELL SPECIFIC RANTES | 2.19e-03 |
| 23 | 71 | 76.3 | 92 | 1 | M11A_MOUSE MACROPHAGE INFLAMMATOR | 2.19e-03 |

| | | | | | | |
|----|----|------|-----|---|-----------------------------------|----------|
| 24 | 71 | 76.3 | 99 | 1 | MCP1_PIG MONOCYTE CHEMOTACTIC P | 2.19e-03 |
| 25 | 70 | 75.3 | 101 | 1 | IL8_CANFA INTERLEUKIN-8 PRECURSO | 3.59e-03 |
| 26 | 70 | 75.3 | 101 | 1 | IL8_SHEEP INTERLEUKIN-8 PRECURSO | 3.59e-03 |
| 27 | 70 | 75.3 | 103 | 1 | IL8_PIG MONOCYTE CHEMOTACTIC P | 5.86e-03 |
| 28 | 69 | 74.2 | 74 | 1 | MCP8_BOVIN MONOCYTE CHEMOTACTIC P | 5.86e-03 |
| 29 | 69 | 74.2 | 99 | 1 | MCP2_HUMAN MONOCYTE CHEMOTACTIC P | 5.86e-03 |
| 30 | 69 | 74.2 | 125 | 1 | MCP1_RABIT MONOCYTE CHEMOTACTIC P | 5.86e-03 |
| 31 | 68 | 73.1 | 97 | 1 | EOTA_RAT BOTAXIN PRECURSOR (EOS | 9.53e-03 |
| 32 | 68 | 73.1 | 97 | 1 | EOTA_MOUSE BOTAXIN PRECURSOR (EOS | 9.53e-03 |
| 33 | 68 | 73.1 | 99 | 1 | MCPA_BOVIN MONOCYTE CHEMOTACTIC P | 9.53e-03 |
| 34 | 68 | 73.1 | 104 | 1 | MCP5_MOUSE MONOCYTE CHEMOTACTIC P | 9.53e-03 |
| 35 | 67 | 72.0 | 101 | 1 | IL8_BOVIN INTERLEUKIN-8 PRECURSO | 1.54e-02 |
| 36 | 67 | 72.0 | 116 | 1 | C10_MOUSE C10 PROTEIN PRECURSOR | 1.54e-02 |
| 37 | 66 | 71.0 | 97 | 1 | EOTA_HUMAN BOTAXIN PRECURSOR (EOS | 2.50e-02 |
| 38 | 66 | 71.0 | 99 | 1 | IL8_HUMAN INTERLEUKIN-8 PRECURSO | 2.50e-02 |
| 39 | 65 | 71.0 | 103 | 1 | EMFL_CHICK EMBRYO FIBROBLAST PROT | 2.50e-02 |
| 40 | 65 | 69.9 | 50 | 1 | S1SD_PIG T-CELL SPECIFIC RANTES | 4.01e-02 |
| 41 | 65 | 69.9 | 91 | 1 | S1SD_HUMAN T-CELL SPECIFIC RANTES | 4.01e-02 |
| 42 | 65 | 69.9 | 91 | 1 | S1SD_CAVPO T-CELL SPECIFIC RANTES | 4.01e-02 |
| 43 | 65 | 69.9 | 96 | 1 | EOTA_CAVPO BOTAXIN PRECURSOR (EOS | 4.01e-02 |
| 44 | 64 | 68.8 | 101 | 1 | IL8_RABIT INTERLEUKIN-8 PRECURSO | 6.43e-02 |
| 45 | 64 | 68.8 | 122 | 1 | M11G_MOUSE MACROPHAGE INFLAMMATOR | 6.43e-02 |

ALIGNMENTS

| RESULT ID | M11A_HUMAN | STANDARD; | PRT; | 92 AA. |
|-----------|--|-----------|------|--------|
| AC | P10147; | | | |
| DT | 01-MAR-1989 (REL. 10, CREATED) | | | |
| DT | 01-MAR-1989 (REL. 10, LAST SEQUENCE UPDATE) | | | |
| DT | 01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE) | | | |
| DE | MACROPHAGE INFLAMMATORY PROTEIN 1-ALPHA PRECURSOR (MIP-1-ALPHA) | | | |
| DE | (TONSILLAR LYMPHOCYTE LD78 ALPHA PROTEIN) (GOS19-1 PROTEIN) (SIS-BETA) | | | |
| DE | (PAT 464.1) (SMALL INDUCIBLE CYTOKINE A3). | | | |
| GN | SCY3 OR MIP1A. | | | |
| OS | HOMO SAPIENS (HUMAN). | | | |
| OC | EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; | | | |
| OC | PRIMATES; CATARRHINI; HOMINIDAE; HOMO. | | | |
| FN | [1] | | | |
| RP | SEQUENCE FROM N.A. | | | |
| RX | MEDLINE; 86223879. | | | |
| RX | OBARU K., FUKUDA M., MAEDA S., SHIMADA K.; | | | |
| RT | "A cDNA clone used to study mRNA inducible in human tonsillar | | | |
| RT | lymphocytes by a tumor promoter."; | | | |
| RL | J. BIOCHEM. 99:885-894 (1986). | | | |
| RN | [2] | | | |
| RP | SEQUENCE FROM N.A. | | | |
| RX | MEDLINE; 89140347. | | | |
| RA | ZIPFEL P.F., BALKE J., IRVING S.G., KELLY K., SIEBENLIST U.; | | | |
| RT | "Mitogenic activation of human T cells induces two closely related | | | |
| RT | genes which share structural similarities with a new family of | | | |
| RT | secreted factors."; | | | |
| RL | J. IMMUNOL. 142:1582-1590 (1989). | | | |
| RN | [3] | | | |
| RP | SEQUENCE FROM N.A. | | | |
| RX | MEDLINE; 91103879. | | | |
| RA | BLUM S., FORSDYKE R.E., FORSDYKE D.R.; | | | |
| RT | "Three human homologs of a murine gene encoding an inhibitor of stem | | | |
| RT | cell proliferation."; | | | |
| RL | DNA CELL BIOL. 9:589-602 (1990). | | | |
| RN | [4] | | | |
| RP | SEQUENCE FROM N.A. | | | |
| RX | MEDLINE; 90287155. | | | |
| RA | NAKAO M., NOMIYAMA H., SHIMADA K.; | | | |
| RT | "Structures of human genes coding for cytokine LD78 and their | | | |
| RT | expression."; | | | |
| RL | MOL. CELL. BIOL. 10:3646-3658 (1990). | | | |
| CC | !- FUNCTION: MONOKINE WITH INFLAMMATORY AND CHEMOKINETIC PROPERTIES. | | | |
| CC | !- INDUCTION: BY TPA OR PHA (TPA = 12-O-TETRADECANOYL PHORBOL-13 | | | |
| CC | ACETATE (TUMOR PROMOTER); PHA = PHYTOHEMAGGLUTININ (T-CELL | | | |
| CC | MITOGEN)). | | | |
| CC | !- SIMILARITY: LD78-ALPHA AND -BETA ARE VERY CLOSELY RELATED. | | | |

US-09-150-813-42.rsp

Sat Feb 5 15:14:00 2000

RA BROWN K.D., ZURAWSKI S.M., MOSMANN T.R., ZURAWSKI G.;
 RT "A family of small inducible proteins secreted by leukocytes are
 RT members of a new superfamily that includes leukocyte and
 RT fibroblast-derived inflammatory agents, growth factors, and
 RT indicators of various activation processes."
 RL J. IMMUNOL. 142:679-687(1989).
 [4]
 RN SEQUENCE FROM N.A.
 RP MEDLINE: 91061800.
 RX BAIXERAS E., ROMAN-ROMAN S., JITSUKAWA S., GENEVEE C., MECHICHE S.,
 RA VIEGAS-POUIGNOT E., HERCEND T., TRIEBEL F.;
 RA "Cloning and expression of a lymphocyte activation gene (LAG-1).";
 RT MOL. IMMUNOL. 27:1091-1102(1990).
 [5]
 RN SEQUENCE FROM N.A.
 RP MEDLINE: 89325421.
 RX CHANG H.C., REINHERZ E.L.;
 RA "Isolation and characterization of a cDNA encoding a putative
 RT cytokine which is induced by stimulation via the CD2 structure on
 RT human T lymphocytes.";
 RL EUR. J. IMMUNOL. 19:1045-1051(1989).
 [6]
 RN SEQUENCE FROM N.A.
 RP MEDLINE: 91373378.
 RX NAPOLITANO M., MODI W.S., CEVARIO S.J., GNARRA J.R., SEUANEZ H.N.,
 RA LEONARD W.J.;
 RA "The gene encoding the Act-2 cytokine. Genomic structure, HTLV-I/Tax
 RT responsiveness of 5' upstream sequences, and chromosomal
 RT localization.";
 RL J. BIOL. CHEM. 266:17531-17536(1991).
 [7]
 RN SEQUENCE OF 6-92 FROM N.A.
 RP MEDLINE: 90038522.
 RX MILLER M.D., HATA S., WAAL MALEFYT R., KRANGEL M.S.;
 RA "A novel polypeptide secreted by activated human T lymphocytes.";
 RL J. IMMUNOL. 143:2907-2916(1989).
 [8]
 RN STRUCTURE BY NMR.
 RP MEDLINE: 94182137.
 RX LODI P.J., GARRETT D.S., KUSCEWSKI J., TSANG M.L.S., WEATHERBEE J.A.,
 RA LEONARD W.J., GRONENBORN A.M., CLORE G.M.;
 RA "High-resolution solution structure of the beta chemokine hMIP-1 beta
 RT by multidimensional NMR.";
 RL SCIENCE 263:1762-1767(1994).
 CC -!- FUNCTION: MONOKINE WITH INFLAMMATORY AND CHEMOKINETIC PROPERTIES.
 CC -!- SUBUNIT: HOMODIMER.
 CC -!- INDUCTION: BY MITOGENS.
 CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
 CC C-C) (CHEMOKINE CC).
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 CC
 CC EMBL: M23502; G533213;
 CC EMBL: M25316; G602455;
 CC EMBL: J04130; G178018;
 CC EMBL: X53683; G34218;
 CC EMBL: X53682; E35870; ALT_SEQ.
 CC EMBL: X16166; G32036;
 CC EMBL: M69203; G1332376;
 CC EMBL: M69201; G1332376; JOINED.
 CC EMBL: M69202; G1332376; JOINED.
 CC EMBL: M57503; G339727;
 CC PIR: A31767; A31767.
 CC PIR: B30574; B30574.
 CC PIR: D30552; D30552.
 CC PIR: JH0319; JH0319.

DR PIR: A37411; A37411.
 DR PDB: IHUM; 30-APR-94.
 DR PDB: IHUN; 30-APR-94.
 DR MIM: 182284; -.
 DR PROSITE: PS00472; SMALL_CYTOKINES_CC; 1.
 DR PFAM: PF00048; 118; 1.
 KW CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL; 3D-STRUCTURE.
 FT SIGNAL 1 23 MACROPHAGE INFLAMMATORY PROTEIN 1-BETA.
 FT CHAIN 24 92 BY SIMILARITY.
 FT DISULFID 34 58 BY SIMILARITY.
 FT DISULFID 35 74 T -> C (IN REF. 7).
 FT CONFLICT 6 6 A -> S (IN REF. 6).
 FT CONFLICT 15 15 P -> L (IN REF. 2).
 FT CONFLICT 20 20 ARKLPK -> REASS (IN REF. 3).
 FT CONFLICT 40 45 S -> I (IN REF. 7).
 FT CONFLICT 56 56 S -> G (IN REF. 6).
 FT CONFLICT 70 70 S -> T (IN REF. 7).
 FT CONFLICT 80 80
 FT CONFLICT 80 80
 FT STRAND 29 29
 FT STRAND 33 33
 FT HELIX 45 47
 FT STRAND 50 53
 FT STRAND 53 66
 FT STRAND 63 75
 FT STRAND 72 78
 FT TURN 77 78
 FT HELIX 80 90
 FT HELIX 80 90
 SQ SEQUENCE 92 AA; 10212 MW; F18E7AFD CRC32;
 Query Match 92.5%; Score 86; DB 1; Length 92;
 Best Local Similarity 91.7%; Pred. No. 9.35e-07; Indels 0; Gaps 0;
 Matches 11; Conservative 0; Mismatches 1;
 Db 72 QVCADPSESFWQ 83
 QY 1 QVCADPSESFWQ 12
 RESULT 4
 ID M1LB_RABIT STANDARD; PRT: 92 AA.
 AC P46632; 1995 (REL. 32, CREATED)
 DT 01-NOV-1995 (REL. 32, LAST SEQUENCE UPDATE)
 DT 01-NOV-1995 (REL. 32, LAST ANNOTATION UPDATE)
 DT 01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)
 DE DE MACROPHAGE INFLAMMATORY PROTEIN 1-BETA PRECURSOR (MIP-1-BETA) (IMMUNE
 DE ACTIVATION PROTEIN 2) (ACT-2).
 GN SC1A4
 OS ORICOLAGUS CUNICULUS (RABBIT).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC LAGOMORPHA; LEPORIDAE; ORYCTOLAGUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=NEW ZEALAND WHITE;
 RX MEDLINE: 94198229.
 RA MOKI S., GOTO K., in mRNA expression of neutrophils during the course
 RT "Dynamic changes in mRNA expression of neutrophils during the course
 RT of acute inflammation in rabbits."
 RL INT. IMMUNOL. 6:149-156(1994).
 CC -!- FUNCTION: MONOKINE WITH INFLAMMATORY AND CHEMOKINETIC PROPERTIES
 CC -!- SUBUNIT: HOMODIMER (BY SIMILARITY).
 CC -!- SUBUNIT: HOMODIMER (BY SIMILARITY).
 CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
 CC C-C) (CHEMOKINE CC).
 CC
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 CC
 CC EMBL: D17402; G599578;
 CC PROSITE: PS00472; SMALL_CYTOKINES_CC; 1.

DR PFAM; PF00048; i18; 1.
 KW HSP; P13236; IHUN.
 FT CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.
 FT CHAIN 1 23 BY SIMILARITY.
 FT DISULFID 24 92 MACROPHAGE INFLAMMATORY PROTEIN 1-BETA.
 FT DISULFID 34 58 BY SIMILARITY.
 FT DISULFID 35 74 BY SIMILARITY.
 SQ SEQUENCE 92 AA; 10066 MW; A629AB2D CRC32;

Query Match 89.2%; Score 83; DB 1; Length 92;
 Best Local Similarity 83.3%; Pred. No. 4.63e-06;
 Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 72 QVCANPSESWVQ 83
 |||||
 QY 1 QVCADPSEEWVQ 12

RESULT 5
 ID M1A_RAT STANDARD; PRT; 92 AA.
 AC P50229;
 DT 01-OCT-1996 (REL. 34, CREATED)
 DT 01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)
 DT 01-NOV-1997 (REL. 35, LAST ANNOTATION UPDATE)
 DE MACROPHAGE INFLAMMATORY PROTEIN 1-ALPHA PRECURSOR (MIP-1-ALPHA).
 GN SCY3 OR MIP1A.
 OS RATTUS NORVEGICUS (RAT).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; RATTUS.
 RN [1]
 RC SEQUENCE FROM N.A.
 RC STRAIN=CD-1; TISSUE=LUNG;
 RX MEDLINE; 95298037;
 RA SHI M.M.; GOLDSKI J.J.; PAULAKIS J.D.;
 RT "Molecular cloning and posttranscriptional regulation of macrophage inflammatory protein-1 alpha in alveolar macrophages.";
 RL BIOCHEM. BIOPHYS. RES. COMMUN. 211:289-295(1995).
 RN [2]
 RC SEQUENCE FROM N.A.
 RC STRAIN=LONG EVANS; TISSUE=LUNG;
 RX MEDLINE; 95238980;
 RA SHANLEY T.P.; SCHWAL H.; FRIEDL H.P.; JONES M.L.; WARD P.A.;
 RT "Role of macrophage inflammatory protein-1 alpha (MIP-1 alpha) in acute lung injury in rats.";
 RL J. IMMUNOL. 154:4793-4802(1995).
 RN [3]
 RC SEQUENCE OF 24-57.
 RC STRAIN=WISTAR;
 RX MEDLINE; 96183056;
 RA NAKAGAWA H.; SHIOTA S.; TAKANO K.; SHIBATA F.; KATO H.;
 RT "Cytokine-induced neutrophil chemoattractant (CINC)-2 alpha, a novel member of rat GRO/CINC, is a predominant chemokine produced by lipopolysaccharide-stimulated rat macrophages in culture.";
 RL BIOCHEM. BIOPHYS. RES. COMMUN. 220:945-948(1996).
 CC -!- FUNCTION: MONOKINE WITH INFLAMMATORY AND CHEMOKINETIC PROPERTIES. BASOPHILS, AND LYMPHOCYTES. REQUIRED FOR LUNG TNF-ALPHA PRODUCTION, NEUTROPHIL RECRUITMENT AND SUBSEQUENT LUNG INJURY AND MAY FUNCTION AS AN AUTOCRINE MEDIATOR FOR THE MACROPHAGE PRODUCTION OF TNF-ALPHA WHICH IN TURN UP-REGULATES VASCULAR ADHESION MOLECULES REQUIRED FOR NEUTROPHIL INFILTRATION. THIS PROTEIN BINDS HEPARIN.
 CC -!- INDUCTION: BY LIPOPOLYSACCHARIDE (LPS).
 CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE C-C) (CHEMOKINE CC).
 CC -----
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 CC -----

CC -----
 DR EMBL; U22414; G790633; -.
 DR EMBL; U06435; G459150; -.
 DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
 DR PFAM; PF00048; i18; 1.
 DR HSP; P13236; IHUN.
 KW CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL; HEPARIN-BINDING.
 FT SIGNAL 1 23
 FT CHAIN 24 92
 FT DISULFID 34 57 MACROPHAGE INFLAMMATORY PROTEIN 1-ALPHA.
 FT DISULFID 35 73 BY SIMILARITY.
 FT CONFLICT 6 6 BY SIMILARITY.
 FT CONFLICT A -> T (IN REF. 2).
 FT CONFLICT C -> W (IN REF. 2 AND 3).
 SQ SEQUENCE 92 AA; 10335 MW; F48CF89F CRC32;

Query Match 83.9%; Score 78; DB 1; Length 92;
 Best Local Similarity 75.0%; Pred. No. 6.33e-05;
 Matches 9; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Db 71 QICADPKETWVQ 82
 |||||
 QY 1 QVCADPSEEWVQ 12

RESULT 6
 ID MCPL_CAVPO STANDARD; PRT; 120 AA.
 AC Q08782;
 DT 01-NOV-1995 (REL. 32, CREATED)
 DT 01-NOV-1995 (REL. 32, LAST SEQUENCE UPDATE)
 DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
 DE MONOCYTE CHEMOTACTIC PROTEIN 1 PRECURSOR (MCP-1) (MONOCYTE CHEMOATTRACTANT PROTEIN-1).
 GN SCY2 OR MCP1.
 OS CAVIA PORCELLUS (GUINEA PIG).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC RODENTIA; HYSTRICOGNATHI; CAVIIDAE; CAVIA.
 RN [1]
 RC SEQUENCE FROM N.A.
 RC STRAIN=2; TISSUE=SPLEEN;
 RX MEDLINE; 93267104.
 RA YOSHIMURA T.;
 RT "cDNA cloning of guinea pig monocyte chemoattractant protein-1 and expression of the recombinant protein.";
 RL J. IMMUNOL. 150:5025-5032(1993).
 CC -!- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES, BUT NOT NEUTROPHILS.
 CC -!- SUBUNIT: MONOMER OR HOMODIMER. IN EQUILIBRIUM (BY SIMILARITY).
 CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE C-C) (CHEMOKINE CC).
 CC -----
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 CC -----

DR EMBL; L04985; G349821; -.
 DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
 DR PFAM; PF00048; i18; 1.
 DR HSP; P80098; INCV.
 KW CYTOKINE; CHEMOTAXIS; SIGNAL; INFLAMMATORY RESPONSE; GLYCOPROTEIN.
 FT SIGNAL 1 23
 FT CHAIN 24 120
 FT MOD_RES 24 24 BY SIMILARITY.
 FT DISULFID 33 57 MONOCYTE CHEMOTACTIC PROTEIN 1.
 FT DISULFID 34 73 PYRROLIDONE CARBOXYLIC ACID (BY SIMILARITY).
 FT CARBOHYD 97 97 BY SIMILARITY.
 SQ SEQUENCE 120 AA; 13741 MW; 22FAD257 CRC32;

Query Match 82.8%; Score 77; DB 1; Length 120;

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Best Local Similarity 66.7%; Pred. No. 1.06e-04; Matches 8; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

Ds 71 EVCAADPTOKVQ 82
QY 1 QVCADPSEEWQ 12

RESULT 7 STANDARD; PRT; 148 AA.
ID MCP1_RAT
AC P14844;
DT 01-APR-1990 (REL. 14, CREATED)
DT 01-APR-1990 (REL. 14, LAST SEQUENCE UPDATE)
DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
DE MONOCYTE CHEMOTACTIC PROTEIN 1 PRECURSOR (MCP-1) (IMMEDIATE-EARLY
DE SERUM-RESPONSIVE JE PROTEIN).
GN SCY2 OR JE OR MCP1.
OS RATTUS NORVEGICUS (RAT).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; RATTUS.
[1]
RN SEQUENCE FROM N.A.
RP STRAIN-WAG/RIJ; TISSUE-KIDNEY;
RX MEDLINE; 90174947.
RA YOSHIMURA T., TAKEYA M., TAKAHASHI K.;
RT "Molecular cloning of rat monocyte chemoattractant protein-1 (MCP-1)
RT and its expression in rat spleen cells and tumor cell lines.";
RL BIOCHEM. BIOPHYS. RES. COMMUN. 174:504-509(1991).
CC -!- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES, BUT NOT
CC NEUTROPHILS.
CC -!- SUBUNIT: MONOMER OR HOMODIMER; IN EQUILIBRIUM (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
CC C-C) (CHEMOKINE CC).
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CC EMBL; X17053; G55531; -.
CC EMBL; M57441; G205334; -.
DR PIR; JN0128; JN0128.
DR PIR; S07723; S07723.
DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
DR PFAM; PF00048; 118; 1.
DR HSP; P13500; IDOL.
KW CYTOKINE; CHEMOTAXIS; SIGNAL; INFLAMMATORY RESPONSE; GLYCOPROTEIN.
FT SIGNAL 1 23
FT CHAIN 24 148
FT MOD_RES 24 24
FT DISULFID 34 59
FT DISULFID 35 75
FT CARBOHYD 126 126
SQ SEQUENCE 148 AA; 16460 MW; DB97F97C CRC32;
Query Match 82.8%; Score 77; DB 1; Length 148;
Best Local Similarity 66.7%; Pred. No. 1.06e-04;
Matches 8; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

Ds 73 EICADPNKEWQ 84
QY 1 QVCADPSEEWQ 12

RESULT 8 STANDARD; PRT; 148 AA.
ID MCP1_MOUSE
AC P10148;
DT 01-MAR-1989 (REL. 10, CREATED)
DT 01-MAR-1989 (REL. 10, LAST SEQUENCE UPDATE)
DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
DE MONOCYTE CHEMOTACTIC PROTEIN 1 PRECURSOR (MCP-1) (PLATELET-DERIVED
DE GROWTH FACTOR-INDUCIBLE PROTEIN JE).
GN SCY2 OR MCP1 OR JE.
OS MUS MUSCULUS (MOUSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; MUS.
[1]
RN SEQUENCE FROM N.A.
RP MEDLINE; 89093129.
RX KAWAHARA R.S., DEUEL T.F.;
RA "Platelet-derived growth factor-inducible gene JE is a member of a
RT family of small inducible genes related to platelet factor 4.";
RL J. BIOL. CHEM. 264:679-682(1989).
[2]
RN SEQUENCE FROM N.A.
RP MEDLINE; 88234501.
RX ROLLINS B.J., MORRISON E.D., STILES C.D.;
RA "Cloning and expression of JE, a gene inducible by platelet-derived
RT growth factor and whose product has cytokine-like properties.";
RL PROC. NATL. ACAD. SCI. U.S.A. 85:3738-3742(1988).
[3]
RN SEQUENCE OF 26-42.
RP MEDLINE; 91293127.
RX VAN DAMME J., DECOCK B., BERTINI R., CONINGS R., LENAERTS J.-P.,
RA PUT W., OPDENAKKER G., MANTOVANI A.;
RT "Production and identification of natural monocyte chemotactic
RT protein from virally infected murine fibroblasts. Relationship with
RT the product of the mouse competence (JE) gene.";
RL EUR. J. BIOCHEM. 199:223-229(1991).
CC -!- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES, BUT NOT
CC NEUTROPHILS.
CC -!- SUBUNIT: MONOMER OR HOMODIMER; IN EQUILIBRIUM (BY SIMILARITY).
CC -!- INDUCTION: BY PLATELET-DERIVED GROWTH FACTOR.
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
CC C-C) (CHEMOKINE CC).
CC
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CC
CC EMBL; J04467; G387169; -.
CC EMBL; M19681; G387168; -.
DR PIR; A30209; A30209.
DR PIR; A30861; A30861.
DR PIR; S16226; S16226.
DR MGI; MGI:98259; SCY2.
DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
DR PFAM; PF00048; 118; 1.
DR HSP; P13500; IDOL.
KW CYTOKINE; CHEMOTAXIS; SIGNAL; INFLAMMATORY RESPONSE; GLYCOPROTEIN.
FT SIGNAL 1 23
FT CHAIN 24 148
FT MOD_RES 24 24
FT DISULFID 34 59
FT DISULFID 35 75
FT CARBOHYD 126 126
SQ SEQUENCE 148 AA; 16326 MW; B7572BEC CRC32;
Query Match 82.8%; Score 77; DB 1; Length 148;
Best Local Similarity 75.0%; Pred. No. 1.06e-04;

Matches 9; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Db 73 EVCADPKKEWQ 84
Qy 1 QVCADPSEEWQ 12

RESULT 9
ID M1B_RAT STANDARD; PRT; 92 AA.
AC P50230;
DT 01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)
DT 01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)
DE MACROPHAGE INFLAMMATORY PROTEIN 1-BETA PRECURSOR (MIP-1-BETA).
GN SCY44 OR M1B.
OS RATTUS NORVEGICUS (RAT).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; RATTUS.
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=LONG EVANS; TISSUE=LUNG;
RA JONES M.L., SHANLEY T.P., SCHMAL H., FRIEDL H.P., WARD P.A.;
RL SUBMITTED (FEB-1994) TO EMBL/GENBANK/DBJ DATA BANKS.
CC -!- FUNCTION: MONOKINE WITH INFLAMMATORY AND CHEMOKINETIC PROPERTIES.
CC -!- SUBUNIT: HOMODIMER (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (MIP-1-BETA).
CC C-C) (CHEMOKINE CC).
CC
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CC
CC EMBL; U06434; G459148; -
DR PROSITE; P500472; SMALL_CYTOKINES_CC; 1.
DR PFAM; PF00048; I18; 1.
DR HSP; P12336; 1HUN.
KW CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.
FT SIGNAL 1 23 BY SIMILARITY.
FT CHAIN 24 92 MACROPHAGE INFLAMMATORY PROTEIN 1-BETA.
FT DISULFID 34 58 BY SIMILARITY.
FT DISULFID 35 74 BY SIMILARITY.
SQ SEQUENCE 92 AA; 10234 MW; 3C82B006 CRC32;
Query Match 81.7%; Score 76; DB 1; Length 92;
Best Local Similarity 81.8%; Pred. No. 1.77e-04;
Matches 9; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 72 QICADPSPWV 82
Qy 1 QVCADPSEEW 11

RESULT 10
ID M1B_CHICK STANDARD; PRT; 90 AA.
AC Q0826;
DT 01-NOV-1997 (REL. 35, CREATED)
DT 15-JUL-1998 (REL. 36, LAST SEQUENCE UPDATE)
DE MACROPHAGE INFLAMMATORY PROTEIN 1-BETA HOMOLOG PRECURSOR.
OS GALLUS GALLUS (CHICKEN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; ARCHOSAURIA; AVES;
OC NEOGNATHAE; GALLIFORMES; PHASIANIDAE; PHASIANINAE; GALLUS.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=BONE MARROW;
RX MEDLINE; 95369710.
RA PETRENKO O., ISCHENKO I., ENRIETTO P.J.;
RT "Isolation of a cDNA encoding a novel chicken chemokine homologous to
RT mammalian macrophage inflammatory protein-1 beta.";

GENE 160:305-306(1995).
[2]
RN SEQUENCE OF 14-90 FROM N.A.
RA PETRENKO O., ENRIETTO P.J.;
RL SUBMITTED (JUL-1994) TO EMBL/GENBANK/DBJ DATA BANKS.
CC -!- FUNCTION: MONOKINE WITH INFLAMMATORY AND CHEMOKINETIC PROPERTIES
CC (BY SIMILARITY).
CC -!- SUBUNIT: HOMODIMER (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
CC C-C) (CHEMOKINE CC).
CC
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CC
CC EMBL; L34553; G509596; -
DR PROSITE; P500472; SMALL_CYTOKINES_CC; 1.
DR PFAM; PF00048; I18; 1.
DR HSP; P12336; 1HUN.
KW CYTOKINE; CHEMOTAXIS; SIGNAL.
FT SIGNAL 1 21 BY SIMILARITY.
FT CHAIN 22 90 MACROPHAGE INFLAMMATORY PROTEIN 1-BETA.
FT DISULFID 32 56 BY SIMILARITY.
FT DISULFID 33 72 BY SIMILARITY.
FT CONFLICT 87 87 L -> M (IN REF. 2).
SQ SEQUENCE 90 AA; 9969 MW; B5637084 CRC32;
Query Match 80.6%; Score 75; DB 1; Length 90;
Best Local Similarity 58.3%; Pred. No. 2.94e-04;
Matches 7; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 70 EVCANPNDWVQ 81
Qy 1 QVCADPSEEWQ 12

RESULT 11
ID MCP4_HUMAN STANDARD; PRT; 98 AA.
AC Q99616;
DT 15-JUL-1998 (REL. 36, CREATED)
DT 15-JUL-1998 (REL. 36, LAST SEQUENCE UPDATE)
DE MONOCYTE CHEMOTACTIC PROTEIN 4 PRECURSOR (MCP-4) (MONOCYTE
DE CHEMOATTRACTANT PROTEIN 4) (CK-BETA10) (NCC-1).
GN SCY43 OR MCP4 OR NCC1.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC PRIMATES; CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=HEART;
RX MEDLINE; 97113354.
RA GARCIA-ZEPEDA E.A., COMBADIÈRE C., ROTHENBERG M.E., SARAFI M.N.,
RA LAVIGNE F., HAMID Q., MURPHY P.M., LUSTER A.D.;
RT "Human monocyte chemoattractant protein (MCP)-4 is a novel CC
RT chemokine with activities on monocytes, eosinophils, and basophils
RT induced in allergic and nonallergic inflammation that signals through
RT the CC chemokine receptors (CCR)-2 and -3.";
RN J. IMMUNOL. 157:5613-5626(1996).
RN [2]
RP SEQUENCE FROM N.A., AND SEQUENCE OF 17-98.
RC TISSUE=FETAL;
RX MEDLINE; 96235049.
RA UGUCCIONI M., LOETSCHER P., FORSSMANN U., DEWALD B., LI H., LIMA S.H.,
RA LI Y., KREIDER B., GAROTTA G., THELEN M., BAGGIOLINI M.;
RT "Monocyte chemoattractant protein 4 (MCP-4), a novel structural and
RT functional analogue of MCP-3 and eotaxin.";
RL J. EXP. MED. 183:2379-2384(1996).
RN [3]

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| | | | |
|----|--|--------|---|
| RP | SEQUENCE FROM N.A., AND SEQUENCE OF 22-33. | QY | 1 QVCADPSEWQ 12 |
| RC | TISSUE-FETAL; | RESULT | 12 |
| RC | MEDLINE; 97341179. | ID | MCP3_HUMAN |
| RA | BERKHOUT T.A., SARAU H.M., MOORES K., WHITE J.R., ELSHOUBAGY N., | AC | P80098; |
| RA | APPELBAUM E., REAPE T.J., BRAUNER M., MAKWANA J., FOLEY J.J., | DT | 01-DEC-1992 (REL. 24, CREATED) |
| RA | SCHMIDT D.B., IMBURGIA C., MACNULTY D., MATTHEWS J., O'DONNELL K., | DT | 01-NOV-1995 (REL. 32, LAST SEQUENCE UPDATE) |
| RA | O'SHANNESY D., SCOTT M., GROOT P.H.E., MACPHEE C., | DT | 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE) |
| RT | "Cloning, in vitro expression, and functional characterization of a | DE | MONOCYTE CHEMOTACTIC PROTEIN 3 (MCP-3) (MONOCYTE |
| RT | novel human CC chemokine of the monocyte chemotactic protein (MCP) | DE | CHEMOATTRACTANT PROTEIN 3) (NC28). |
| RT | family (MCP-4) that binds and signals through the CC chemokine | OS | SCYA7 OR MCP3. |
| RT | receptor 2B."; | OS | HOMO SAPIENS (HUMAN). |
| RT | J. BIOL. CHEM. 272:16404-16413(1997). | OC | EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; |
| RN | [4] | OC | PRIMATES; CATARRHINI; HOMINIDAE; HOMO. |
| RP | SEQUENCE FROM N.A. | RN | SEQUENCE FROM N.A., AND SEQUENCE OF 31-67 AND 71-99. |
| RA | DANTE M., GIBSON A.; | RX | MEDLINE; 93213290. |
| RL | SUBMITTED (AUG-1997) TO EMBL/GENBANK/DBJ DATA BANKS. | RA | OPDENAKKER G., FROYEN G., FITEN P., PROOST P., VAN DAMME J.; |
| RN | [5] | RT | "Human monocyte chemotactic protein-3 (MCP-3): molecular cloning of |
| RP | SEQUENCE FROM N.A. | RL | the cDNA and comparison with other chemokines."; |
| RC | TISSUE-LUNG; | RL | BIOCHEM. BIOPHYS. RES. COMMUN. 191:535-542(1993). |
| RA | POWER C.A., MEYER A., RISON S.C.G., GUYE-COULIN F., WELLS T.N.C.; | RN | [2] |
| RL | SUBMITTED (DEC-1997) TO EMBL/GENBANK/DBJ DATA BANKS. | RP | SEQUENCE FROM N.A. |
| CC | -!- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES, LYMPHOCYTES, | RX | MEDLINE; 94375065. |
| CC | BASOPHILS AND EOSINOPHILS, BUT NOT NEUTROPHILS. SIGNALS THROUGH | RA | OPDENAKKER G., FITEN P., NYS G., FROYEN G., VAN ROY N., SPELEMAN F., |
| CC | CCR2B AND CCR3 RECEPTORS. PLAYS A ROLE IN THE ACCUMULATION OF | RA | LAUREYS G., VAN DAMME J.; |
| CC | LEUKOCYTES AT BOTH SIDES OF ALLERGIC AND NONALLERGIC INFLAMMATION. | RT | "The human MCP-3 gene (SCYA7): cloning, sequence analysis, and |
| CC | MAY BE INVOLVED IN THE RECRUITMENT OF MONOCYTES INTO THE ARTERIAL | RT | assignment to the C-C chemokine gene cluster on chromosome |
| CC | WALL DURING THE DISEASE PROCESS OF ARTERIOSCLEROSIS. MAY PLAY A | RT | 17q11.2-q12."; |
| CC | ROLE IN THE MONOCYTE ATTRACTION IN TISSUESCHLOROSIS. EXPOSED TO | RT | GENOMICS 21:403-408(1994). |
| CC | EXOGENOUS PATHOGENS. | RN | [3] |
| CC | -!- MASS SPECTROMETRY: MW=9314; MW ERR=30; METHOD-MALDI; RANGE=17-98. | RP | SEQUENCE FROM N.A. |
| CC | -!- MASS SPECTROMETRY: MW=8760; MW ERR=30; METHOD-MALDI; RANGE=22-98. | RX | MEDLINE; 93305913. |
| CC | -!- MASS SPECTROMETRY: MW=8575; MW ERR=30; METHOD-MALDI; RANGE=24-98. | RA | MINTY A., CHALON P., GUILLEMOT J.C., KAGHAD M., LIAUZUN P., |
| CC | -!- INDUCTION: BY INTERLEUKIN-1 AND TNF-ALPHA. | RA | MACAZIN M., MILOUX B., MINTY C., RAMOND P., VITA N., LUPKER J., |
| CC | -!- TISSUE SPECIFICITY: WIDELY EXPRESSED. FOUND IN SMALL INTESTINE. | RA | SHRE D., FERRARA P., CAPUT D.; |
| CC | THYMUS, COLON, LUNG, TRACHEA, STOMACH AND LYMPH NODE. LOW LEVELS | RA | seen in the pulmonary artery smooth muscle cells. |
| CC | THIS PROTEIN CAN BIND HEPARIN. | RT | expression."; |
| CC | -!- PTM: ONE MAJOR ISOFORM MCP-4, AND TWO MINOR ISOFORMS (LA)MCP-4 AND | RT | EUR. CYTOKINE NETW. 4:99-110(1993). |
| CC | (FNPGOLA)MCP-4 ARE PRODUCED BY DIFFERENTIAL SIGNAL CLEAVAGE. | RN | [4] |
| CC | (LA)MCP-4 IS ABOUT 30 FOLD LESS ACTIVE THAN MCP-4. | RP | SEQUENCE OF 30-99. |
| CC | -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE | RC | TISSUE-OSTEOSARCOMA; |
| CC | C-C) (CHEMOKINE CC). | RX | MEDLINE; 92308855. |
| CC | THIS SWISS-PROT entry is copyright. It is produced through a collaboration | RA | VAN DAMME J., PROOST P., LENAERTS J.-P., OPDENAKKER G.; |
| CC | between the Swiss Institute of Bioinformatics and the EMBL outstation - | RT | "Structural and functional identification of two human, tumor-derived |
| CC | the European Bioinformatics Institute. There are no restrictions on its | RT | monocyte chemotactic proteins (MCP-2 and MCP-3) belonging to the |
| CC | use by non-profit institutions as long as its content is in no way | RT | chemokine family."; |
| CC | modified and this statement is not removed. Usage by and for commercial | RL | J. EXP. MED. 176:59-65(1992). |
| CC | entities requires a license agreement (see http://www.isb-sib.ch/announce/ | RN | [5] |
| CC | or send an email to license@isb-sib.ch). | RP | STRUCTURE BY NMR, AND SUBUNIT. |
| CC | ----- | RX | MEDLINE; 97053697. |
| DR | EMBL; U46767; G1732123; | RA | KIM K.-S., RAJARATHNAM K., CLARK-LEWIS L., SYKES B.D.; |
| DR | EMBL; AC002482; G2340091; | RT | "Structural characterization of a monomeric chemokine: monocyte |
| DR | EMBL; X98306; E248571; | RT | chemoattractant protein-3."; |
| DR | MIM; 601391; | RL | FEBS LETT. 395:277-282(1996). |
| DR | PROSITE; PS00472; SMALL_CYTOKINES_CC; 1. | RN | [6] |
| DR | PFAM; PF00048; 118; 1. | RP | STRUCTURE BY NMR. |
| DR | HSPF; P13500; 1DOL. | RX | MEDLINE; 97263733. |
| KW | CYTOKINE; CHEMOTAXIS; SIGNAL; GLYCOPROTEIN; INFLAMMATORY RESPONSE. | RA | MEUNIER S., BERNASSAU J.-M., GUILLEMOT J.-C., FERRARA P., DARBON H.; |
| FT | SIGNAL | RT | "Determination of the three-dimensional structure of CC chemokine |
| FT | CHAIN | RT | monocyte chemoattractant protein 3 by 1H two-dimensional NMR |
| FT | MOD_RES | RT | spectroscopy."; |
| FT | DISULFID | RL | BIOCHEMISTRY 36:4412-4422(1997). |
| FT | DISULFID | CC | -!- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES AND |
| FT | CARBOHYD | CC | EOSINOPHILS, BUT NOT NEUTROPHILS. AUGMENTS MONOCYTE ANTI-TUMOR |
| SQ | SEQUENCE 98 AA; 10986 MW; DF52F6EC CRC32; | CC | ACTIVITY. ALSO INDUCES THE RELEASE OF GELATINASE B. THIS PROTEIN |
| | | CC | CAN BIND HEPARIN. |
| | | CC | -!- SUBUNIT: MONOMER. |
| | | CC | -!- PTM: O-GLYCOSYLATED. |
| | | CC | -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE |
| | | CC | C-C) (CHEMOKINE CC). |
| | | CC | ----- |
| db | 72 EICADPKKWWQ 83 | | |
| | | | |
| | Query Match | | 80.6%; Score 75; DB 1; Length 98; |
| | Best Local Similarity | | 66.7%; Pred. No. 2.94e-04; |
| | Matches | | 8; Conservative 2; Mismatches 2; Indels 0; Gaps 0; |

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DR EMBL; X72308; G313708; ALT_INIT.
 DR EMBL; X72309; -; NOT_ANNOTATED_CDS.
 DR EMBL; X71087; G288399; -
 DR EMBL; X71087; G288398; ALT_INIT.
 DR EMBL; X71087; G288397; ALT_INIT.
 DR PIR; JC1478; JC1478.
 DR PIR; S32222; S32222.
 DR PIR; A54678; A54678.
 DR PDB; INCV; 15-OCT-97.
 DR MIM; 158106; -
 DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
 DR PFAM; PF00048; i18; 1.
 KW CYTOKINE; CHEMOTAXIS; HEPARIN-BINDING; GLYCOPROTEIN; SIGNAL;
 KW INFLAMMATORY RESPONSE; 3D-STRUCTURE.
 FT SIGNAL 1 23
 FT CHAIN 24 99 MONOCYTE CHEMOTACTIC PROTEIN 3.
 FT MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID.
 FT DISULFID 34 59 BY SIMILARITY.
 FT DISULFID 35 75 BY SIMILARITY.
 FT CARBOHYD 29 29 POTENTIAL.
 FT CONFLICT 30 30 T -> K (IN REF. 4).
 FT CONFLICT 68 70 MISSING (IN REF. 4).
 SQ SEQUENCE 99 AA; 1200 MW; 7502E19C CRC32;

Query Match 80.6%; Score 75; DB 1; Length 99;
 Best Local Similarity 58.3%; Pred. No. 2.94e-04;
 Matches 7; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 73 EICADPTQKVVQ 84
 QY ::::: |||
 1 QVCADPSEWVQ 12

RESULT 13
 ID MIP4 HUMAN STANDARD; PRT; 89 AA.
 AC P55774;
 DT 01-NOV-1997 (REL. 35, CREATED)
 DT 01-NOV-1997 (REL. 35, LAST SEQUENCE UPDATE)
 DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
 DE MACROPHAGE INFLAMMATORY PROTEIN 4 PRECURSOR (MIP-4) (PULMONARY AND
 DE ACTIVATION-REGULATED CHEMOKINE) (CC CHEMOKINE PARC) (ALTERNATIVE
 DE ACTIVATED MACROPHAGE ASSOCIATED CC CHEMOKINE 1) (AMAC-1).
 GN SCVA18 OR MIP4
 OS HOMO SAPIENS (HUMAN).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC PRIMATES; CATARRHINI; HOMINIDAE; HOMO.
 [1]
 RP SEQUENCE FROM N.A.
 RA LI H., RUBEN S.;
 RT "Macrophage inflammatory protein-3 and -4."
 RL PATENT NUMBER US5504003, 02-APR-1996.
 RN [2]
 RP SEQUENCE FROM N.A., AND PARTIAL SEQUENCE.
 RC TISSUE-AORTA, AND LUNG;
 RX MEDLINE; 97376836.
 RA HIESHIMA K., INAI T., BABA M., SHODAI K., ISHIZUKA K.,
 RA NAKAGAWA T., TSURUTA J., TAKAYA M., SAKAKI Y., TAKATSUKI K.,
 RA MIURA R., ODENAKER G., VAN DAMME J., YOSHIE O., NOMIYAMA H.;
 RT "A novel human CC chemokine PARC that is most homologous to
 RT macrophage-inflammatory protein-1 alpha/LD78 alpha and chemotactic
 RT for T lymphocytes, but not for monocytes."
 RL J. IMMUNOL. 159:1140-1149(1997).
 RN [3]
 RP SEQUENCE FROM N.A.
 RA KODELJA V., MUELLER C., POLITZ O., HAKIY N., ORFANOS C.E., GOERDT S.;

RL SUBMITTED (AUG-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [4]
 RP DISCUSSION OF SEQUENCE.
 RX MEDLINE; 97275308.
 RA WELLS T.N.C., PEITISCH M.C.;
 RT "The chemokine information source: identification and
 RT characterization of novel chemokines using the WorldWideWeb and
 RT J. LEUKOC. BIOL. 61:545-550(1997).
 CC -!- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS LYMPHOCYTES BUT NOT
 CC MONOCYTES OR GRANULOCYTES. MAY BE INVOLVED IN B CELL MIGRATION
 CC INTO B CELL FOLLICLES IN LYMPH NODES.
 CC -!- TISSUE SPECIFICITY: EXPRESSED AT HIGH LEVELS IN THE LUNG. A LOWER
 CC LEVEL EXPRESSION IS SEEN IN LYMPHOID TISSUES SUCH AS LYMPH NODES,
 CC THYMUS AND APPENDIX.
 CC -!- INDUCTION: BY LIPOPOLYSACCHARIDE (LPS).
 CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
 CC C-C) (CHEMOKINE CC).
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DR EMBL; AB000221; D1022520; -
 DR EMBL; Y13710; E321838; -
 DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
 DR PFAM; PF00048; i18; 1.
 DR HSP; P13236; LHUN.
 KW CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.
 FT SIGNAL 1 20
 FT CHAIN 21 89 MACROPHAGE INFLAMMATORY PROTEIN 4.
 FT DISULFID 30 54 BY SIMILARITY.
 FT DISULFID 31 70 BY SIMILARITY.
 SQ SEQUENCE 89 AA; 9849 MW; 052AA3DC CRC32;

Query Match 79.6%; Score 74; DB 1; Length 89;
 Best Local Similarity 66.7%; Pred. No. 4.88e-04;
 Matches 8; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Db 68 QICADPNKKVVQ 79
 QY ::::: |||
 1 QVCADPSEWVQ 12

RESULT 14
 ID MIP_MOUSE STANDARD; PRT; 92 AA.
 AC P14097;
 DT 01-JAN-1990 (REL. 13, CREATED)
 DT 01-FEB-1996 (REL. 33, LAST SEQUENCE UPDATE)
 DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
 DE MACROPHAGE INFLAMMATORY PROTEIN 1-BETA PRECURSOR (MIP-1-BETA) (H400
 DE PROTEIN) (SIS-GAMMA) (ACT2).
 GN SC1A4 OR MIP1B.
 OS MUS MUSCULUS (MOUSE).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; MUS.
 [1]
 RP SEQUENCE FROM N.A.
 RA SHERRY B., TEKAMP-OLSON P., GALLEGOS C., BAUER D., DAVATELIS G.,
 RA WOLFE S.D., MASIARZ F., COIT D., CERAMI A.;
 RT "Resolution of the two components of macrophage inflammatory protein
 RT 1, and cloning and characterization of one of those components,
 RT macrophage inflammatory protein 1 beta."
 RL J. EXP. MED. 168:2251-2259(1988).
 RN [2]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 89093958.
 RA BROWN K.D., ZURAWSKI S.M., MOSMANN T.R., ZURAWSKI G.;

"A family of small inducible proteins secreted by leukocytes are members of a new superfamily that includes leukocyte and fibroblast-derived inflammatory agents, growth factors, and indicators of various activation processes.";
J. IMMUNOL. 142:679-687(1989).
[3]
SEQUENCE FROM N.A.
STRAIN=DBA/2J; TISSUE=LIVER;
DAUBERSIES P., LEPRETRE F., BAILLEUL B., GROVE M., PRAGNELL I., PLUMB M.A.;
SUBMITTED (OCT-1991) TO EMBL/GENBANK/DBJ DATA BANKS.
CC -!- FUNCTION: MONOKINE WITH INFLAMMATORY AND CHEMOKINETIC PROPERTIES.
CC -!- SUBUNIT: HOMODIMER (BY SIMILARITY).
CC -!- SUBUNIT: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE C-C) (CHEMOKINE CC).

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EMBL; M23503; G53245; -;
DR DR
EMBL; M35590; G19697; -;
DR DR
EMBL; M62502; G53127; -;
DR DR
PIR; C30552; C30552.
DR DR
PIR; JLO088; JLO088.
DR DR
MGD; MGI-98261; SCYA4.
DR DR
PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
DR DR
PRAM; PF00048; 118; 1.
DR DR
HSP; P13236; LHUN.
DR DR
CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.
FT FT
FT CHAIN 1 23
FT FT 24 92
FT FT 34 58
FT FT DISULFID 35 74
FT FT DISULFID 35 74
FT FT CONFLICT 75 75
FT FT CONFLICT 75 79
FT FT CONFLICT 79 88
FT FT CONFLICT 88 88
FT FT CONFLICT D->H (IN REF. 1).
FT FT CONFLICT D->H (IN REF. 1).
SQ SEQUENCE 92 AA; 10168 MW; C543B91F CRC32;

Query Match 78.5%; Score 73; DB 1; Length 92;
Best Local Similarity 72.7%; Pred.No. 8,08e-04;
Matches 8; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 72 QTCANPSPWV 82
QY 1 QVCADPSEEW 11

RESULT 15
ID CCC1_HUMAN STANDARD; PRT; 93 AA.
AC Q16627;
DT 01-NOV-1997 (REL. 35, CREATED)
DT 01-NOV-1997 (REL. 35, LAST SEQUENCE UPDATE)
DT 01-NOV-1997 (REL. 35, LAST ANNOTATION UPDATE)
DE CHEMOKINE CC-1 PRECURSOR (HCC-1) (NCC-2).
GN SCYA14 OR NCC2.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC PRIMATES; CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A., AND SEQUENCE OF 20-93.
RC TISSUE=BONE MARROW;
RX MEDLINE: 96136773.
RA SCHULZ-KNAPPE P., MAEGERT H.-J., DEWALD B., MEYER M., CETIN Y., RA KUBBIES M., TOMCZKOWSKI J., KIRCHHOFF K., RAIDA M., ADERMANN K., RA KIST A., REINECKE M., SILLARD R., PARDIGOL A., UGUCCIONI M., RA BAGGIOLINI M., FORSMANN W.-G.;
RA "HCC-1", a novel chemokine from human plasma.";
RL J. EXP. MED. 183:295-299(1996).

[2] SEQUENCE FROM N.A.
RP TISSUE=LIVER;
RC PARDIGOL A., MAEGERT H.-J., ZUCHT H.D., FORSMANN W.-G.,
RA SCHULZ-KNAPPE P.;
RL SUBMITTED (MAY-1996) TO EMBL/GENBANK/DDBJ DATA BANKS.
[3] SEQUENCE FROM N.A.
RN
RP
TSISSUE=PLACENTA;
RC PARDIGOL A., MAEGERT H.-J., CIESIAK A., HILL O., SCHULZ-KNAPPE P.,
RA FORSMANN W.-G.;
RL SUBMITTED (OCT-1995) TO EMBL/GENBANK/DDBJ DATA BANKS.
CC -|- FUNCTION: HAS WEAK ACTIVITIES ON HUMAN MONOCYTES AND ACTS VIA
CC RECEPTORS THAT ALSO RECOGNIZE MIP-1 ALPHA. IT INDUCED
CC INTRACELLULAR CA2+ CHANGES AND ENZYME RELEASE, BUT NO CHEMOTAXIS,
CC AT CONCENTRATIONS OF 100-1,000 NM, AND WAS INACTIVE ON T
CC LYMPHOCYTES, NEUTROPHILS, AND EOSINOPHIL LEUKOCYTES. ENHANCES THE
CC PROLIFERATION OF CD34 MYELOID PROGENITOR CELLS.
CC -|- TISSUE SPECIFICITY: EXPRESSED CONSTITUTIVELY IN SEVERAL NORMAL
CC TISSUES: SPLEEN, LIVER, SKELETAL AND HEART MUSCLE, GUT, AND BONE
CC MARROW, PRESENT AT HIGH CONCENTRATIONS (1-80 NM) IN PLASMA.
CC -|- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
CC C-C) (CHEMOKINE CC).

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CC or send an email to license@isb-sib.ch).

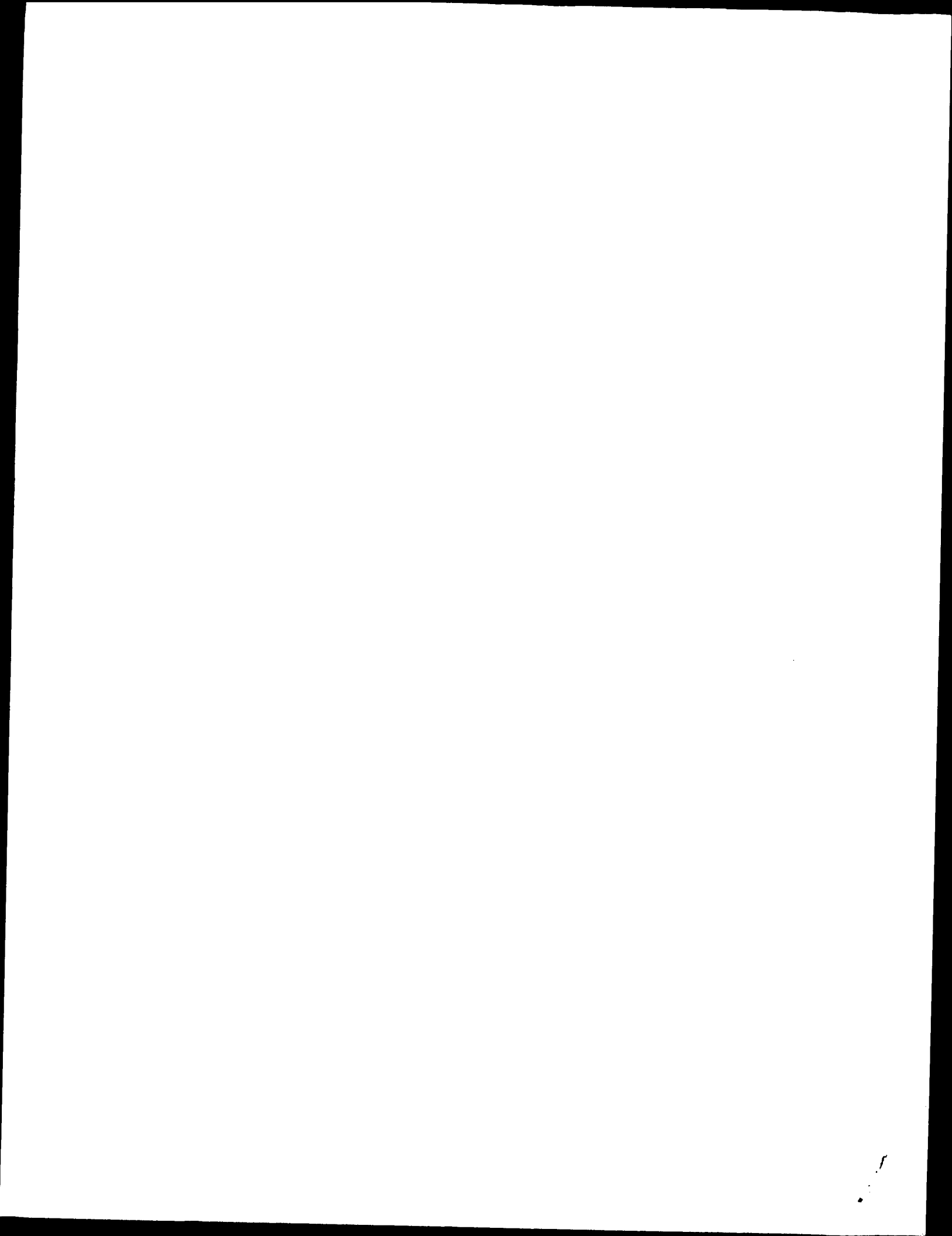
CC EMBL; Z49270; GI004269; -;
DR EMBL; Z70292; E233856; -;
DR EMBL; Z49269; GI004267; -;
CC
DR MIN; 601392; -;
DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
DR PFAM; PF00048; i18; 1.
DR HSP; P13236; 1HUN.
DR
KW CYTOKINE; SIGNAL.
FT SIGNAL 19
FT CHAIN 20 93
FT CHAIN 35 59
FT DISULFID 36 75
FT DISULFID 36 75
FT
SQ SEQUENCE 93 AA; 10678 MW; A3E7BCAD CRC32;

Chemokine CC-1.
BY SIMILARITY.
BY SIMILARITY.

Query Match 78.5%; Score 73; DB 1; Length 93;
Best Local Similarity 63.6%; Pred. No. 8.08e-04;
Matches 7; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

Dbb 74 VCTNPSSDKVQ 84
QV 2 VCADPSEEWQ 12

Search completed: Fri Feb 4 17:22:08 2000
Job time : 6 secs.



 M P S R E L H
 (TM)

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MPSrch_pp protein - protein database search, using Smith-Waterman algorithm

Run on: Fri Feb 4 17:21:13 2000; MasPar time 3.56 Seconds
 Tabular output not generated. 134.882 Million cell updates/sec

Title: >US-09-150-813-42
 Description: (1-12) from US09150813.pap

Perfect Score: 93
 Sequence: 1 QVCADPSEWVQ 12

Scoring table: PAM 150
 Gap 15

Searched: 122810 seqs, 40068593 residues

Post-processing: Minimum Match 0%
 Listing first 45 summaries

Database: pir60
 1:pir1 2:pir2 3:pir3 4:pir4

Statistics: Mean 24.749; Variance 37.567; scale 0.659

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Match % | Query Length | DB ID | Description | Pred. No. |
|------------|-------|---------|--------------|----------|-----------------------|-----------|
| 1 | 93 | 100.0 | 92 | 2 A30574 | macrophage inflammato | 2.99e-07 |
| 2 | 93 | 100.0 | 93 | 2 B35673 | LD78-beta protein pre | 2.99e-07 |
| 3 | 86 | 92.5 | 50 | 2 C60407 | monocyte adherence-in | 9.32e-06 |
| 4 | 86 | 92.5 | 92 | 1 A31767 | macrophage inflammato | 9.32e-06 |
| 5 | 83 | 89.2 | 92 | 2 I46730 | immune activation gen | 3.95e-05 |
| 6 | 79 | 84.9 | 120 | 2 JE0177 | lymphocyte and monocy | 2.64e-04 |
| 7 | 78 | 83.9 | 92 | 2 I52322 | macrophage inflammato | 4.22e-04 |
| 8 | 77 | 82.8 | 120 | 2 I48147 | PDGF-inducible JE gly | 6.72e-04 |
| 9 | 77 | 82.8 | 148 | 2 A30209 | macrophage inflammato | 6.72e-04 |
| 10 | 77 | 82.8 | 148 | 2 S07723 | macrophage inflammato | 6.72e-04 |
| 11 | 75 | 80.6 | 109 | 2 A54678 | monocyte chemotactic | 1.70e-03 |
| 12 | 73 | 78.5 | 92 | 2 C30552 | macrophage inflammato | 4.24e-03 |
| 13 | 73 | 78.5 | 99 | 2 JC2417 | monocyte chemotactic | 4.24e-03 |
| 14 | 72 | 77.4 | 99 | 2 A60299 | monocyte chemotactic | 6.67e-03 |
| 15 | 71 | 76.3 | 91 | 1 A46539 | macrophage inflammato | 1.05e-02 |
| 16 | 71 | 76.3 | 92 | 2 A32393 | macrophage inflammato | 1.05e-02 |
| 17 | 71 | 76.3 | 99 | 2 JC2136 | monocyte chemotactic | 1.64e-02 |
| 18 | 70 | 75.3 | 95 | 2 JN0841 | interleukin-8 - dog | 1.64e-02 |
| 19 | 70 | 75.3 | 101 | 2 S42496 | interleukin-8 - sheep | 1.64e-02 |
| 20 | 70 | 75.3 | 101 | 2 I46997 | interleukin-8 - sheep | 1.64e-02 |
| 21 | 70 | 75.3 | 103 | 2 A44253 | alveolar macrophage c | 1.64e-02 |
| 22 | 70 | 75.3 | 103 | 2 A53096 | interleukin-8 precurs | 1.64e-02 |
| 23 | 69 | 74.2 | 99 | 2 JC5295 | monocyte chemotactic | 2.56e-02 |

| | | | | | | |
|----|----|------|-----|----------|-----------------------|----------|
| 24 | 69 | 74.2 | 125 | 2 I46857 | monocyte chemoattract | 2.56e-02 |
| 25 | 68 | 73.1 | 99 | 2 JC2336 | monocyte chemoattract | 3.98e-02 |
| 26 | 68 | 73.1 | 99 | 2 A39296 | monocyte chemoattract | 3.98e-02 |
| 27 | 67 | 72.0 | 116 | 2 I49555 | gene C10 protein - mo | 6.17e-02 |
| 28 | 66 | 71.0 | 99 | 2 A37034 | interleukin-8 precurs | 9.55e-02 |
| 29 | 66 | 71.0 | 103 | 2 A26736 | transformation-induce | 9.55e-02 |
| 30 | 66 | 71.0 | 103 | 2 I50417 | RSV-induced protein - | 9.55e-02 |
| 31 | 65 | 69.9 | 91 | 1 A28815 | monocyte chemoattract | 1.47e-01 |
| 32 | 65 | 69.9 | 96 | 2 JC2478 | monocyte chemoattract | 1.47e-01 |
| 33 | 65 | 69.9 | 96 | 2 I48099 | eotaxin precursor - r | 1.47e-01 |
| 34 | 64 | 68.8 | 97 | 2 JC4912 | eotaxin precursor - h | 1.47e-01 |
| 35 | 64 | 68.8 | 101 | 2 I46871 | interleukin-8 - rabbi | 2.26e-01 |
| 36 | 63 | 67.7 | 89 | 2 I53416 | interleukin-8 homolog | 3.46e-01 |
| 37 | 63 | 67.7 | 89 | 2 A53497 | pre-B-cell growth-sti | 3.46e-01 |
| 38 | 63 | 67.7 | 93 | 2 I81182 | cytokine - mouse | 3.46e-01 |
| 39 | 63 | 67.7 | 93 | 2 G01540 | cytokine SDF-1-beta - | 3.46e-01 |
| 40 | 61 | 65.6 | 101 | 2 I48148 | Neutrophil attractant | 8.03e-01 |
| 41 | 60 | 64.5 | 114 | 1 ETHUL | lymphotactin precurs | 1.24e+00 |
| 42 | 59 | 63.4 | 114 | 1 ETMSL | lymphotactin precurs | 1.83e+00 |
| 43 | 59 | 63.4 | 385 | 2 S54997 | reverse transcriptase | 1.83e+00 |
| 44 | 59 | 63.4 | 385 | 2 S54995 | reverse transcriptase | 1.83e+00 |
| 45 | 59 | 63.4 | 385 | 2 S54987 | reverse transcriptase | 1.83e+00 |

ALIGNMENTS

| | |
|-------------------|--|
| RESULT | 1 |
| ENTRY | A30574 |
| TITLE | macrophage inflammatory protein 1-alpha precursor - human |
| ALTERNATE_NAMES | LD78-alpha protein precursor; lymphocyte tumor promoter-induced protein; macrophage inflammatory protein homolog GOS19-1; MIP-1alpha; PAR464; small inducible cytokine A3; T-cell activation protein 1 |
| ORGANISM | #formal_name Homo sapiens #common_name man |
| DATE | 03-Aug-1992 #sequence_revision 03-Aug-1992 #text_change 29-May-1998 |
| ACCESSIONS | A35673; A30574; A30412; A24198; A30908 |
| REFERENCE | A35673 |
| #authors | Nakao, M.; Nomiya, H.; Shimada, K. |
| #journal | Mol. Cell. Biol. (1990) 10:3646-3658 |
| #title | Structures of human genes coding for cytokine LD78 and their expression. |
| #cross-references | MUID:90287155 |
| #accession | A35673 |
| #molecule_type | DNA |
| #residues | 1-92 #label NAK |
| #cross-references | GB:D90144; NID:g219905; PID:dl014875; PID:g219906 |
| REFERENCE | A30574 |
| #authors | Zipfel, P.F.; Balke, J.; Irving, S.G.; Kelly, K.; Siebenlist, U. |
| #journal | J. Immunol. (1989) 142:1582-1590 |
| #title | Mitogenic activation of human T cells induces two closely related genes which share structural similarities with a new family of secreted factors. |
| #cross-references | MUID:89140347 |
| #accession | A30574 |
| #molecule_type | mRNA |
| #residues | 1-92 #label ZIP |
| #cross-references | GB:M25315; NID:g602452; PID:g602453 |
| REFERENCE | A30412 |
| #authors | Blum, S.; Forsdyke, R.E.; Forsdyke, D.R. |
| #journal | DNA Cell Biol. (1990) 9:589-602 |
| #title | Three human homologs of a murine gene encoding an inhibitor of stem cell proliferation. |
| #cross-references | MUID:91103879 |
| #accession | A30412 |
| #molecule_type | mRNA |
| #residues | 1-92 #label BLU |
| REFERENCE | A24198 |
| #authors | Obaru, K.; Fukuda, M.; Maeda, S.; Shimada, K. |
| #journal | J. Biochem. (1986) 99:885-894 |
| #title | A cDNA clone used to study mRNA inducible in human tonsillar lymphocytes by a tumor promoter. |

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#cross-references MUID:86223879
#accession A24198
##status preliminary
##molecule_type mRNA
##residues 1-93 ##label OBA

GENETICS
#gene GDB:SCYA3
##cross-references GDB:120368; OMIM:182283
#map_position 17q11-17q21
CLASSIFICATION #superfamily macrophage inflammatory protein
FEATURE
1-20
21-92
#domain signal sequence #status predicted #label SIG\
#product macrophage inflammatory protein 1-alpha #status
predicted #label MAT\
#disulfide_bonds #status predicted
SUMMARY
33-57,34-73 #length 92 #molecular-weight 10085 #checksum 4316

Query Match 100.0%; Score 93; DB 2; Length 92;
Best Local Similarity 100.0%; Pred. No. 2.99e-07;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 71 QVCADPSEEWQ 82
QY 1 QVCADPSEEWQ 12
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RESULT 2
ENTRY B35673 #type complete
TITLE LD78-beta protein precursor - human
ALTERNATE_NAMES macrophage inflammatory protein homolog GOS19-2; small
inducible cytokine A4
ORGANISM #formal_name Homo sapiens #common_name man
DATE 28-Sep-1990 #sequence_revision 28-Sep-1990 #text_change
24-Sep-1998
ACCESSIONS B35673; B30412; S10157; B30908
REFERENCE A35673
#authors Nakao, M.; Nomiya, H.; Shimada, K.
#journal Mol. Cell. Biol. (1990) 10:3646-3658
#title Structures of human genes coding for cytokine LD78 and their
expression.
#cross-references MUID:90287155
#accession B35673
##status preliminary
##molecule_type DNA
##residues 1-93 ##label NAK
##cross-references GB:D90145; NID:g219907; PID:g1014876; PID:g219908
REFERENCE A30412
#authors Blum, S.; Forsdyke, R.E.; Forsdyke, D.R.
#journal DNA Cell Biol. (1990) 9:589-602
#title Three human homologs of a murine gene encoding an inhibitor
of stem cell proliferation.
#cross-references MUID:91103879
#accession B30412
##status preliminary; not compared with conceptual translation
##molecule_type DNA
##residues 1-93 ##label BUU
##cross-references GB:M24110; GB:M32338; NID:g182848; PID:g182849
REFERENCE S10157
#authors Irving, S.G.; Zipfel, P.F.; Balke, J.; McBride, O.W.; Morton,
C.C.; Burd, P.R.; Siebenlist, U.; Kelly, K.
#journal Nucleic Acids Res. (1990) 18:3261-3270
#title Two inflammatory mediator cytokine genes are closely linked
and variably amplified on chromosome 17q.
#cross-references MUID:90287702
#accession S10157
##status preliminary
##molecule_type mRNA
##residues 1-93 ##label IRV
##cross-references EMBL:X52149; NID:g34750; PID:g296666
COMMENT This protein is a member of a "small inducible" or "activation
specific" gene family, is likely to be an early-acting
interleukin, and is the product of a putative G0/G1 switch gene.

GENETICS
#gene GDB:SCYA4
##cross-references GDB:120369; OMIM:182284
#map_position 17q11-17q21
#introns 26/1; 64/2
CLASSIFICATION #superfamily macrophage inflammatory protein
KEYWORDS cytokine
FEATURE
1-22
23-93
#domain signal sequence #status predicted #label SIG\
#product LD78-beta protein #status predicted #label MAT\
#length 93 #molecular-weight 10161 #checksum 7784

SUMMARY
Query Match 100.0%; Score 93; DB 2; Length 93;
Best Local Similarity 100.0%; Pred. No. 2.99e-07;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 72 QVCADPSEEWQ 83
QY 1 QVCADPSEEWQ 12
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RESULT 3
ENTRY C60407 #type fragment
TITLE monocyte adherence-induced protein 5 beta - human (fragment)
ORGANISM #formal_name Homo sapiens #common_name man
DATE 06-Nov-1992 #sequence_revision 06-Nov-1992 #text_change
03-May-1996
ACCESSIONS C60407
REFERENCE A60407
#authors Sporn, S.A.; Eierman, D.F.; Johnson, C.E.; Morris, J.;
Martin, G.; Ladner, M.; Haskill, S.
#journal J. Immunol. (1990) 144:4434-4441
#title Monocyte adherence results in selective induction of novel
genes sharing homology with mediators of inflammation and
tissue repair.
#cross-references MUID:90257367
#accession C60407
##status preliminary; not compared with conceptual translation
##molecule_type mRNA
##residues 1-50 ##label SPO
CLASSIFICATION #superfamily macrophage inflammatory protein
SUMMARY #length 50 #checksum 9927

Query Match 92.5%; Score 86; DB 2; Length 50;
Best Local Similarity 91.7%; Pred. No. 9.32e-06;
Matches 11; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Db 30 QVCADPSEEWQ 41
QY 1 QVCADPSEEWQ 12
|||||

RESULT 4
ENTRY A31767 #type complete
TITLE macrophage inflammatory protein 1-beta precursor - human
ALTERNATE_NAMES cytokine HC21; G-26 protein; H400 homolog; lymphocyte
activation gene 1 protein (LAG-1); MIP-1beta; pAT744; SCYA2
protein (misidentification); SIS gamma homolog; T-cell
activation protein 2 (Act-2); T-cell activation protein
gamma
ORGANISM #formal_name Homo sapiens #common_name man
DATE 07-Jun-1990 #sequence_revision 29-May-1998 #text_change
29-May-1998
ACCESSIONS JH0319; A40978; A31767; B30574; B45817; D30552
REFERENCE JH0319
#authors Baixeras, E.; Roman-Roman, S.; Jitsukawa, S.; Genevree, C.;
Mechiche, S.; Viegas-Pequignot, E.; Hercend, T.; Triebel,
F.
#journal Mol. Immunol. (1990) 27:1091-1102
#title Cloning and expression of a lymphocyte activation gene
(lag-1).
#cross-references MUID:91061800
#accession JH0319
##status translation not shown

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##molecule_type DNA
##residues 1-92 ##label BAI
##cross-references GB:X53682; NID:g34217; PID:g34218
##experimental_source natural killer cell, strain CD3-CD2+, F5, 5IIIES
REFERENCE
A40978
#authors Napolitano, M.; Modi, W.S.; Cevario, S.J.; Gnarr, J.R.;
Seuanez, H.N.; Leonard, W.J.
#journal J. Biol. Chem. (1991) 266:17531-17536
#title The gene encoding the Act-2 cytokine. Genomic structure, and
HTLV-I/tax responsiveness of 5' upstream sequences, and
chromosomal localization.
#cross-references MUID:91373378
#accession A40978
##molecule_type DNA
##residues 1-14,'S',16-69,'G',71-92 ##label NAP
##cross-references GB:M69201; NID:g178021
##note 15-Ala was also found
REFERENCE
A31767
#authors Lipes, M.A.; Napolitano, M.; Jeang, K.T.; Chang, N.T.;
Leonard, W.J.
#journal Proc. Natl. Acad. Sci. U.S.A. (1988) 85:9704-9708
#title Identification, cloning, and characterization of an immune
activation gene.
#cross-references MUID:89071764
#accession A31767
##molecule_type mRNA
##residues 1-92 ##label LIP
##cross-references GB:J04130; NID:g178017; PID:g178018
REFERENCE
A37411
#authors Chang, H.C.; Reinherz, E.L.
#journal Eur. J. Immunol. (1989) 19:1045-1051
#title Isolation and characterization of a cDNA encoding a putative
cytokine which is induced by stimulation via the CD2
structure on human T lymphocytes.
#cross-references MUID:89325421
#accession A37411
##molecule_type mRNA
##residues 1-92 ##label CHA
##cross-references GB:X16166; NID:g32035; PID:g32036
REFERENCE
A3057A
#authors Zipfel, P.F.; Balke, J.; Irving, S.G.; Kelly, K.; Siebenlist,
U.
#journal J. Immunol. (1989) 142:1582-1590
#title Mitogenic activation of human T cells induces two closely
related genes which share structural similarities with a
new family of secreted factors.
#cross-references MUID:89140347
#accession B3057A
##molecule_type mRNA
##residues 1-19,'L',21-92 ##label ZIP
##cross-references GB:M25316; NID:g602454; PID:g602455
REFERENCE
A45817
#authors Miller, M.D.; Hata, S.; Malefyt, R.D.W.; Krangel, M.S.
#journal J. Immunol. (1989) 143:2907-2916
#title A novel polypeptide secreted by activated human T
lymphocytes.
#cross-references MUID:90038522
#accession B45817
##molecule_type mRNA
##residues 7-55,'I',57-79,'T',81-92 ##label MIL
##cross-references GB:M57503; NID:g339726; PID:g339727
REFERENCE
A30552
#authors Brown, K.D.; Zurawski, S.M.; Mosmann, T.R.; Zurawski, G.
#journal J. Immunol. (1989) 142:679-687
#title A family of small inducible proteins secreted by leukocytes
are members of a new superfamily that includes leukocyte
and fibroblast-derived inflammatory agents, growth factors,
and indicators of various activation processes.
#cross-references MUID:89093958
#accession D30552
##molecule_type mRNA
##residues 1-39,'REASS',46-92 ##label BRO
##cross-references GB:M23502; NID:g533212; PID:g533213
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```
REFERENCE
A52206
#authors Clore, G.M.; Lodi, P.J.; Garrett, D.S.; Gronenborn, A.M.
#submission submitted to the Brookhaven Protein Data Bank, January 1994
#cross-references PDB:1HUM
#contents annotation; conformation and disulfide bond assignments by
(1)H-NMR, residues 24-92
COMMENT This protein is secreted by activated lymphocytes and monocytes. It
is bound by chemokine (C-C) receptor 5 (see PIR:A43113) and
receptor 1 (see PIR:A45177).
GENETICS
#gene GDB:LAG1
##cross-references GDB:127451; OMIM:153335
#map_position 17q21-17q21
#introns 26/1; 64/2
CLASSIFICATION
KEYWORDS #superfamily macrophage inflammatory protein
chemotaxis; cytokine; inflammation
FEATURE
1-23 #domain signal sequence #status predicted #label SIG\
24-92 #product macrophage inflammatory protein 1-beta #status
experimental
34-58,35-74 #disulfide_bonds #status experimental
SUMMARY #length 92 #molecular_weight 10212 #checksum 7597
Query Match 92.5%; Score 86; DB 1; Length 92;
Best Local Similarity 91.7%; Pred. No. 9.32e-06;
Matches 11; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
Db 72 QVCADPSESWVQ 83
QY 1 QVCADPSESWVQ 12
RESULT 5
ENTRY I46730 #type complete
TITLE immune activation gene 2 - rabbit
ORGANISM #formal_name Oryctolagus cuniculus #common_name domestic
rabbit
DATE 14-Feb-1997 #sequence_revision 14-Feb-1997 #text_change
09-May-1997
ACCESSIONS I46730
REFERENCE I46730
#authors Mori, S.; Goto, K.; Goto, F.; Mutakami, K.; Ohkawara, S.;
Yoshinaga, M.
#journal Int. Immunol. (1994) 6:149-156
#title Dynamic changes in mRNA expression of neutrophils during the
course of acute inflammation in rabbits.
#cross-references MUID:94198229
#accession I46730
##status preliminary; translated from GB/EMBL/DBJ
##molecule_type mRNA
##residues 1-92 ##label MOR
##cross-references GB:D17402; NID:g599577; PID:g599578
CLASSIFICATION #superfamily macrophage inflammatory protein
SUMMARY #length 92 #molecular_weight 10066 #checksum 5637
Query Match 89.2%; Score 83; DB 2; Length 92;
Best Local Similarity 83.3%; Pred. No. 3.95e-05;
Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
Db 72 QVCANPSESWEVQ 83
QY 1 QVCADPSESWVQ 12
RESULT 6
ENTRY JE0177 #type complete
TITLE lymphocyte and monocyte chemoattractant CC chemokine - human
ORGANISM #formal_name Homo sapiens #common_name man
DATE 10-Jul-1998 #sequence_revision 10-Jul-1998 #text_change
17-Mar-1999
ACCESSIONS JE0177
REFERENCE JE0177
#authors Youn, B.S.; Zhang, S.; Broxmeyer, H.E.; Antol, K.; Fraser
```

#journal Biochem. Biophys. Res. Commun. (1998) 247:217-222
 #title Isolation and characterization of LMC, a novel lymphocyte and monocyte chemoattractant human CC chemokine, with myelosuppressive activity.
 #cross-references MUID:98308096
 #accession J0177
 ##molecule_type mRNA
 ##residues 1-120 #label YOU
 SUMMARY #length 120 #molecular-weight 13600 #checksum 230

Query Match 84.9%; Score 79; DB 2; Length 120;
 Best Local Similarity 50.0%; Pred. No. 2.64e-04;
 Matches 6; Conservative 6; Mismatches 0; Indels 0; Gaps 0;

Db 74 EVCTNPNDWQ 85
 QY 1 QVADPSEEWQ 12

RESULT 7
 ENTRY I52322 #type complete
 TITLE macrophage inflammatory protein-lalpha - rat
 ORGANISM #formal_name Rattus norvegicus #common_name Norway rat
 DATE 29-May-1998 #sequence_revision 29-May-1998 #text_change 02-Jul-1998
 ACCESSIONS I52322
 REFERENCE Shi, M.M.; Godleski, J.J.; Paulauskis, J.D. Biochem. Biophys. Res. Commun. (1995) 211:289-295
 #authors Molecular cloning and posttranscriptional regulation of macrophage inflammatory protein-1 alpha in alveolar macrophages.
 #title
 #cross-references MUID:95298037
 #accession I52322
 ##status Preliminary; translated from GB/EMBL/DBJ
 ##molecule_type mRNA
 ##residues 1-92 #label RES
 ##cross-references EMBL:U22414; NID:g790632; PID:g790633
 CLASSIFICATION #superfamily macrophage inflammatory protein
 SUMMARY #length 92 #molecular-weight 10335 #checksum 3184

Query Match 83.98%; Score 78; DB 2; Length 92;
 Best Local Similarity 75.0%; Pred. No. 4.22e-04;
 Matches 9; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Db 71 QICADPKETWQ 82
 QY 1 QVADPSEEWQ 12

RESULT 8
 ENTRY I48147 #type complete
 TITLE monocyte chemoattractant protein-1 - guinea pig
 ORGANISM #formal_name Cavia porcellus #common_name guinea pig
 DATE 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 09-May-1997
 ACCESSIONS I48147
 REFERENCE Yoshimura, T. J. Immunol. (1993) 150:5025-5032
 #authors cDNA cloning of guinea pig monocyte chemoattractant protein-1 and expression of the recombinant protein.
 #title
 #cross-references MUID:93267104
 #accession I48147
 ##status Preliminary; translated from GB/EMBL/DBJ
 ##molecule_type mRNA
 ##residues 1-120 #label RES
 ##cross-references GB:L04985; NID:g349820; PID:g349821

GENETICS MCP-1
 #gene
 CLASSIFICATION #superfamily macrophage inflammatory protein
 SUMMARY #length 120 #molecular-weight 13741 #checksum 9252

Query Match 82.8%; Score 77; DB 2; Length 120;
 Best Local Similarity 66.7%; Pred. No. 6.72e-04;
 Matches 8; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

Db 71 EVCADPTQKWQ 82
 QY 1 QVADPSEEWQ 12

RESULT 9
 ENTRY A30209 #type complete
 TITLE PDGF-inducible JE glycoprotein precursor - mouse
 ORGANISM #formal_name Mus musculus #common_name house mouse
 DATE 01-Dec-1989 #sequence_revision 01-Dec-1989 #text_change 01-May-1998
 ACCESSIONS A30209; A44771; A30861
 REFERENCE Rollins, B.J.; Morrison, E.D.; Stiles, C.D. Proc. Natl. Acad. Sci. U.S.A. (1988) 85:3738-3742
 #authors Cloning and expression of JE, a gene inducible by platelet-derived growth factor and whose product has cytokine-like properties.
 #title
 #cross-references MUID:88234501
 #accession A30209
 ##molecule_type DNA
 ##residues 1-148 #label ROL
 ##cross-references GB:M19681; NID:g193486; PID:g387168; GB:M19682

REFERENCE A44771
 #authors Kawahara, R.S.; Deuel, T.F. J. Biol. Chem. (1989) 264:679-682
 #journal Platelet-derived growth factor-inducible gene JE is a member of a family of small inducible genes related to platelet factor 4.
 #title
 #cross-references MUID:89093129
 #accession A44771
 ##molecule_type DNA; mRNA
 ##residues 1-148 #label KA2
 ##cross-references GB:J04467; NID:g193488; PID:g387169

GENETICS #gene
 #introns 26/1: 65/2
 CLASSIFICATION #superfamily macrophage inflammatory protein
 KEYWORDS cytokine; glycoprotein
 FEATURE 126
 #binding-site carbohydrate (Asn) (covalent) #status predicted
 SUMMARY #length 148 #molecular-weight 16326 #checksum 5278

Query Match 82.8%; Score 77; DB 2; Length 148;
 Best Local Similarity 75.0%; Pred. No. 6.72e-04;
 Matches 9; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Db 73 EVCADPKKEWQ 84
 QY 1 QVADPSEEWQ 12

RESULT 10
 ENTRY S07723 #type complete
 TITLE immediate-early serum-responsive protein JE precursor - rat
 ORGANISM #formal_name Rattus norvegicus #common_name Norway rat
 DATE 29-Jan-1993 #sequence_revision 29-Jan-1993 #text_change 13-Nov-1998
 ACCESSIONS S07723; JN0128
 REFERENCE Timmers, H.T.M.; Pronk, G.J.; Bos, J.L.; van der Eb, A.J. Nucleic Acids Res. (1990) 18:23-34
 #authors Analysis of the rat JE gene promoter identifies an AP-1 binding site essential for basal expression but not for TPA induction.
 #title
 #cross-references MUID:90174947


```

#accession S07723
#molecule_type DNA
#residues 1-148 ##label TIM
##cross-references EMBL:X17053; NID:g55530; PID:g55531
REFERENCE
#authors Yoshimura, T.; Takeya, M.; Takahashi, K.
#journal Biochem. Biophys. Res. Commun. (1991) 174:504-509
#title Molecular cloning of rat monocyte chemoattractant protein-1
(MCP-1) and its expression in rat spleen cells and tumor
cell lines.
#cross-references MUID:91128376
#accession JN0128
#molecule_type mRNA
#residues 1-148 ##label YOS
##cross-references GB:M57441; NID:g205333; PID:g205334
#experimental_source spleen cells
#note the authors translated the codon GAA for residue 62 as
Lys and GCT for residue 63 as Leu
GENETICS
#introns 26/1; 65/2
#superfamily macrophage inflammatory protein
CLASSIFICATION
#domain signal sequence #status predicted #label SIG\
FEATURE
1-23 #product immediate-early serum-responsive protein JE
24-148 #status predicted #label MAT
SUMMARY
#length 148 #molecular-weight 16460 #checksum 4876
Query Match 82.8%; Score 77; DB 2; Length 148;
Best Local Similarity 66.7%; Pred. No. 6.72e-04;
Matches 8; Conservative 3; Mismatches 1; Indels 0; Gaps 0;
Db 73 EICADPNKEWQ 84
:||||: ||||
QY 1 QVCADPSEWVQ 12
RESULT 11
ENTRY A54678 #type complete
TITLE monocyte chemoattractant protein 3 precursor - human
ALTERNATE_NAMES
#formal_name Homo sapiens #common_name man
ORGANISM
#formal_name Homo sapiens #common_name man
DATE 28-Oct-1994 #sequence_revision 28-Oct-1994 #text_change
17-Mar-1999
ACCESSIONS
A54678; JCl1478; S32222
REFERENCE
#authors Opdenakker, G.; Fiten, P.; Nys, G.; Froyen, G.; Van Roy, N.;
Spelman, F.; Laureys, G.; Van Damme, J.
#journal Genomics (1994) 21:403-408
#title The human MCP-3 gene (SCYA7): cloning, sequence analysis, and
assignment to the C-C chemokine gene cluster on chromosome
17q11.2-q12
#cross-references MUID:94375065
#accession A54678
#molecule_type DNA
#residues 1-109 ##label OPD
##cross-references GB:X72309
REFERENCE
JCl1478
#authors Opdenakker, G.; Froyen, G.; Fiten, P.; Proost, P.; Van Damme,
J.
#journal Biochem. Biophys. Res. Commun. (1993) 191:535-542
#title Human monocyte chemoattractant protein-3 (MCP-3): Molecular
cloning of the cDNA and comparison with other chemokines.
#cross-references MUID:93213290
#accession JCl1478
#molecule_type mRNA
#residues 1-109 ##label OP2
REFERENCE
S32222
#authors Minty, A.; Chalon, P.; Guillemot, J.C.; Kaghad, M.; Liaunus,
P.; Magazin, M.; Miloux, B.; Minty, C.; Ramond, P.; Vita,
N.; Lucker, J.; Shire, D.; Ferrara, P.; Caput, D.
#submission submitted to the EMBL Data Library, March 1993
#description Molecular cloning of MCP-3: a human monocyte-derived monocyte
chemoattractant protein.

```

```

#accession S32222
#molecule_type mRNA
#residues 1-109 ##label MIN
##cross-references EMBL:X71087; NID:g288396; PID:g288397
COMMENT This protein induces proteinase secretion and chemotaxis by
macrophages and monocytes.
GENETICS
#gene GDB:SCYA7; SCYA6; MCP-3
##cross-references GDB:138473; OMIM:158106
#map_position 17q11-17q12
#introns 36/1; 75/2
#superfamily macrophage inflammatory protein
CLASSIFICATION
#domain signal sequence #status predicted #label SIG\
FEATURE
1-33 #product monocyte chemoattractant protein 3 #status
34-109 #predicted #label MAT\
39 #binding_site carbohydrate (Asn) (covalent) #status
Predicted
SUMMARY
#length 109 #molecular-weight 12356 #checksum 1535
Query Match 80.6%; Score 75; DB 2; Length 109;
Best Local Similarity 58.3%; Pred. No. 1.70e-03;
Matches 7; Conservative 4; Mismatches 1; Indels 0; Gaps 0;
Db 83 EICADPTQKWQ 94
:||||: |||
QY 1 QVCADPSEWVQ 12
RESULT 12
ENTRY C30552 #type complete
TITLE macrophage inflammatory protein 1-beta precursor - mouse
ALTERNATE_NAMES
#formal_name Mus musculus #common_name house mouse
ORGANISM
#formal_name Mus musculus #common_name house mouse
DATE 28-Aug-1989 #sequence_revision 28-Aug-1989 #text_change
13-Nov-1998
ACCESSIONS
C30552; JL0088; PS0304; S22042
REFERENCE
A30552
#authors Brown, K.D.; Zurawski, S.M.; Mosmann, T.R.; Zurawski, G.
#journal J. Immunol. (1989) 142:679-687
#title A family of small inducible proteins secreted by leukocytes
are members of a new superfamily that includes leukocyte
and fibroblast-derived inflammatory agents, growth factors,
and indicators of various activation processes.
#cross-references MUID:89093958
#accession C30552
#molecule_type mRNA
#residues 1-92 ##label BRO
##cross-references GB:M23503; NID:g533244; PID:g533245
REFERENCE
JL0088
#authors Sherry, B.; Tekamp-Olson, P.; Gallegos, C.; Bauer, D.;
Davatelis, G.; Wolpe, S.D.; Maslarsz, F.; Coit, D.; Cerami,
A.
#journal J. Exp. Med. (1988) 168:2251-2259
#title Resolution of the two components of macrophage inflammatory
protein 1, and cloning and characterization of one of those
components, macrophage inflammatory protein 1 beta.
#cross-references MUID:89067830
#accession JL0088
#molecule_type mRNA
#residues 1-92 ##label SHE
##cross-references GB:M35590; NID:g199696; PID:g199697
#accession PS0304
#molecule_type protein
#residues 24-33,'XX',36,'X',38 ##label SH2
REFERENCE
S22042
#authors Daubersies, P.; Lepretre, F.; Baillieu, B.; Grove, M.;
Pragnell, I.; Plumb, M.
#submission submitted to the EMBL Data Library, October 1991
#description Sequence of the murine macrophage inflammatory protein 1b
gene.
#accession S22042

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##status      preliminary
##molecule_type DNA
##residues    1-92 ##label DAU
##cross-references EMBL:X62502; NID:g53126; PID:g53127
COMMENT      This protein is a monokine.
GENETICS
  introns    26/1; 64/2
  KEYWORDS   #superfamily macrophage inflammatory protein
  FEATURE    glycoprotein
1-23
24-92
76
SUMMARY      #domain signal sequence #status predicted #label SIG\
              #product macrophage inflammatory protein 1-beta #status
              #binding_site carbohydrate (Asn) (covalent) #status
              predicted
              #length 92 #molecular-weight 10168 #checksum 7516
Query Match  78.5%; Score 73; DB 2; Length 92;
Best Local Similarity 72.7%; Pred. No. 4.24e-03;
Matches      8; Conservative 2; Mismatches 1; Indels 0; Gaps 0;
Db          72 QICANPSEPW 82
QY          1 QVCADPSEEW 11

RESULT      13
ENTRY      JC2417      #type complete
TITLE      monocyte chemoattractant protein-2 precursor - pig
ORGANISM   #formal_name Sus scrofa domestica #common_name domestic pig
DATE       24-Feb-1995 #sequence_revision 24-Feb-1995 #text_change
17-Mar-1999
ACCESSIONS JC2417
REFERENCE   JC2417
  authors   Hosang, K.; Knoke, I.; Klaudiny, J.; Wempe, F.; Wuttke, W.;
            Scheit, K.H.
  #journal  Biochem. Biophys. Res. Commun. (1994) 205:148-153
  #title    Porcine luteal cells express monocyte chemoattractant
            protein-2 (MCP-2): Analysis by cDNA cloning and northern
            analysis.
  #cross-references MUID:95091716
  #accession JC2417
  ##molecule_type mRNA
  ##residues 1-99 ##label HOS
  ##experimental_source corpus luteum
CLASSIFICATION #superfamily macrophage inflammatory protein
FEATURE
1-23
24-99
SUMMARY      #domain signal sequence #status predicted #label SIG\
              #product monocyte chemoattractant protein-2 #status
              predicted #label MAT
              #length 99 #molecular-weight 10903 #checksum 7556
Query Match  78.5%; Score 73; DB 2; Length 99;
Best Local Similarity 66.7%; Pred. No. 4.24e-03;
Matches      8; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
Db          73 EVCADPQKWKVQ 84
QY          1 QVCADPSEEWVQ 12

RESULT      14
ENTRY      A60299      #type complete
TITLE      monocyte chemoattractant protein 1 precursor - human
ALTERNATE_NAMES GDCF-1; glioma-derived monocyte chemotactic factor 1; MCAF;
                MCP-1; monocyte chemotactic factor 1; monocyte secretory
                protein; tumor-derived chemotactic factor
                #formal_name Homo sapiens #common_name man
                20-Feb-1993 #sequence_revision 20-Feb-1993 #text_change
                20-Mar-1998
ACCESSIONS   A35474; A33476; S03339; I51841; A60299; A32300; A32396;
                A34561; I57488; JC1096

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REFERENCE

A35474
Shyy, Y.J.; Li, Y.S.; Kolattukudy, P.E.
Biochem. Biophys. Res. Commun. (1990) 169:346-351
Structure of human monocyte chemotactic protein gene and its
regulation by TPA.
#cross-references MUID:90290466
#accession A35474
##molecule_type DNA
##residues 1-99 ##label SHY
##cross-references GB:M37719; NID:g187447; PID:g487124
A33476
Rollins, B.J.; Stier, P.; Ernst, T.; Wong, G.G.
Mol. Cell. Biol. (1989) 9:4687-4695
The human homolog of the JE gene encodes a monocyte secretory
protein.
#cross-references MUID:90097880
#accession A33476
##molecule_type mRNA
##residues 1-99 ##label ROL
##cross-references GB:M30816; GB:M31625; GB:M31626; NID:g188701;
PID:g386961
S03339
Yoshimura, T.; Yuhki, N.; Moore, S.K.; Appella, E.; Lerman,
M.I.; Leonard, E.J.
FEBS Lett. (1989) 244:487-493
Human monocyte chemoattractant protein-1 (MCP-1). Full-length
cDNA cloning, expression in mitogen-stimulated blood
mononuclear leukocytes, and sequence similarity to mouse
competence gene JE.
#cross-references MUID:89153605
#accession S03339
##status not compared with conceptual translation
##molecule_type mRNA
##residues 1-99 ##label YOS
##cross-references GB:X14768; NID:g34513; PID:g34514
##experimental_source glioma cell line U-105MG
I51841
Yoshimura, T.; Leonard, E.J.
Adv. Exp. Med. Biol. (1991) 305:47-56
Human monocyte chemoattractant protein-1 (MCP-1).
#cross-references MUID:92095166
#accession I51841
##status preliminary; translated from GB/EMBL/DBJ
##molecule_type mRNA
##residues 1-99 ##label YO2
##cross-references GB:S71513; NID:g240867; PID:g240868
A60299
Bottazzi, B.; Colotta, F.; Sica, A.; Nobili, N.; Mantovani,
A.
Int. J. Cancer (1990) 45:795-797
A chemoattractant expressed in human sarcoma cells
(tumor-derived chemotactic factor, TDCF) is identical to
monocyte chemoattractant protein-1/monocyte chemotactic and
activating factor (MCP-1/MCAF).
#accession A60299
##status not compared with conceptual translation
##molecule_type mRNA
##residues 1-99 ##label BOT
A32300
Furutani, Y.; Nomura, H.; Notake, M.; Oyama, Y.; Fukui, T.;
Yamada, M.; Larsen, C.G.; Oppenheim, J.J.; Matsushima, K.
Biochem. Biophys. Res. Commun. (1989) 159:249-255
Cloning and sequencing of the cDNA for human monocyte
chemotactic and activating factor (MCAF).
#cross-references MUID:89165862
#accession A32300
##status not compared with conceptual translation
##molecule_type mRNA
##residues 1-99 ##label FUR
##cross-references GB:M24545; NID:g187434; PID:g307163
A32396
Robinson, E.A.; Yoshimura, T.; Leonard, E.J.; Tanaka, S.;
Griffin, P.R.; Shabanowitz, J.; Hunt, D.F.; Appella, E.

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#journal
#title

#cross-references MUID:89184525
#accession A32396
#molecule_type protein
#residues 'X',25-99 #label ROB
REFERENCE
#authors
Decock, B.; Conings, R.; Lenaerts, J.P.; Billiau, A.; Van
Damme, J.
Biochem. Biophys. Res. Commun. (1990) 167:904-909
#journal
#title
Identification of the monocyte chemoattractant protein from human
osteosarcoma cells and monocytes: detection of a novel
N-terminally processed form.
#cross-references MUID:90211336
#accession A34561
#molecule_type protein
#residues 29-33,'XX',36-52;82-92 #label DEC
REFERENCE
#authors
Li, Y.S.; Shyy, Y.J.; Wright, J.G.; Valente, A.J.; Cornhill,
J.F.; Kolattukudy, P.E.
Mol. Cell. Biochem. (1993) 126:61-68
#journal
#title
The expression of monocyte chemoattractant protein (MCP-1) in
human vascular endothelium in vitro and in vivo.
#cross-references MUID:94150478
#accession I57488
#status translated from GB/EMBL/DBJ
#molecule_type mRNA
#residues 1-99 #label LIY
#cross-references GB:569738; NID:9545464; PID:9545465
REFERENCE
#authors
Ye, Q.N.; Su, G.F.; Yuan, Y.; Huang, C.F.
Chinese J. Microbiol. Immunol. (1994) 14:29-32
#journal
#title
The PCR, cloning and sequencing of human monocyte
chemoattractant protein-1 (MCP-1) gene.
#accession JCI096
#molecule_type mRNA
#residues 24-28,'Q',30-99 #label YEQ
GENETICS
#gene GDB:SCYA2
#map_position 17q11.2-17q12
#cross-references GDB:125279; OMIM:158105
CLASSIFICATION
#superfamily macrophage inflammatory protein
#cytokine; glycoprotein; inflammation; pyroglutamic acid
KEYWORDS
#domain signal sequence #status predicted #label SIG\
#product monocyte chemoattractant protein 1 #status
experimental #label MAT\
#product monocyte chemoattractant protein 1, short form
#status experimental #label MAT2\
#modified site pyrrolidone carboxylic acid (Gln) (in
mature form) #status experimental\
#binding_site carbohydrate (Asn) (covalent) #status
predicted
SUMMARY
#length 99 #molecular_weight 11025 #checksum 7984
Query Match 77.4%; Score 72; DB 2; Length 99;
Best Local Similarity 58.3%; Pred. No. 6.67e-03;
Matches 7; Conservative 3; Mismatches 2; Indels 0; Gaps 0;
Db 73 EICADPKQKWQ 84
:::
QY 1 QVCADPSEEWQ 12
:::

RESULT 15
ENTRY
#type complete
#monocyte chemoattractant cytokine RANTES precursor - mouse
ALTERNATE_NAMES
MURANTES
ORGANISM
#formal_name Mus musculus #common_name house mouse
#sequence_revision 16-Aug-1996 #text_change
18-Jun-1993
DATE 22-Jan-1999

#journal
#title

#cross-references MUID:94132613
#accession I48875
#status preliminary; translated from GB/EMBL/DBJ
#molecule_type DNA
#residues 1-91 #label DAN
#cross-references EMBL:U02298; NID:9460090; PID:9460091
REFERENCE
#authors
Schall, T.J.; Simpson, N.J.; Mak, J.Y.
Eur. J. Immunol. (1992) 22:1477-1481
#journal
#title
Molecular cloning and expression of the murine RANTES
cytokine: structural and functional conservation between
mouse and man.
#cross-references MUID:92289805
#accession A46539
#molecule_type mRNA
#residues 1-18,'A',20-91 #label SCH
#cross-references GB:S37648; NID:9250207; PID:9250208
#experimental_source macrophage cell line PU5-1.8
#note sequence extracted from NCBI backbone (NCBIN:106768,
NCBIP:106770)
REFERENCE
#authors
Shin, H.S.; Drysdale, B.E.; Shin, M.L.; Noble, P.W.; Fisher,
S.N.; Paznekas, W.A.
Mol. Cell. Biol. (1994) 14:2914-2925
#journal
#title
Definition of a lipopolysaccharide-responsive element in the
5'-flanking regions of Murantes and crg-2.
#cross-references MUID:94217689
#accession I48654
#status translation not shown; translated from GB/EMBL/DBJ
#molecule_type DNA
#residues 1-91 #label SHI
#cross-references EMBL:X70675; NID:9475205; PID:9475206
REFERENCE
#authors
Neilson, E.G.; Krensky, A.
Kidney Int. (1992) 41:220-225
#journal
#title
Isolation and characterization of cDNA from renal tubular
epithelium encoding murine Rantes: A small interferon from
the Scy superfamily.
#cross-references MUID:92277990
#accession I56970
#status translated from GB/EMBL/DBJ
#molecule_type mRNA
#residues 1-40,'E',42-91 #label NEI
#cross-references GB:M77747; NID:9200649; PID:9200650
COMMENT
This chemoattractant for monocytes but not neutrophils is an
immediate-early response protein to LPS stimulation.
GENETICS
#introns 26/1; 63/2
#superfamily macrophage inflammatory protein
#chemotaxis; cytokine; immediate-early protein; inflammation
CLASSIFICATION
#domain signal sequence #status predicted #label SIG\
#product monocyte chemoattractant cytokine RANTES
#status predicted #label MAT
#length 91 #molecular_weight 10071 #checksum 3010
SUMMARY
Query Match 76.3%; Score 71; DB 1; Length 91;
Best Local Similarity 66.7%; Pred. No. 1.05e-02;
Matches 8; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
Db 71 QVCANPEKWWQ 82
:::
QY 1 QVCADPSEEWQ 12
:::

Search completed: Fri Feb 4 17:21:44 2000

```

Sat Feb 5 15:13:59 2000

US-09-150-813-42.rpr

Page 8

Job time : 31 secs.

 MIPRELH

 (TM)

Release 3.1A John F. Collins, Biocomputing Research Unit.
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MPSrch_pp protein - protein database search, using Smith-Waterman algorithm

Run on: Fri Feb 4 17:20:38 2000; MasPar time 3.60 Seconds

Tabular output not generated. 70.794 Million cell updates/sec

Title: >US-09-150-813-42
 Description: (1-12) from US09150813.pcp
 Perfect Score: 93
 Sequence: 1 QVCADPSEEWQ 12

Scoring table: PAM 150
 Gap 15

Searched: 170751 seqs, 21266608 residues

Post-processing: Minimum Match 0%
 Listing first 45 summaries

Database: a-geneseq35
 1:part1 2:part2 3:part3 4:part4 5:part5 6:part6 7:part7
 8:part8 9:part9 10:part10 11:part11 12:part12 13:part13
 14:part14 15:part15 16:part16 17:part17 18:part18
 19:part19 20:part20 21:part21 22:part22 23:part23
 24:part24 25:part25 26:part26 27:part27 28:part28
 29:part29 30:part30 31:part31 32:part32 33:part33
 34:part34 35:part35 36:part36 37:part37 38:part38
 39:part39

Statistics: Mean 18.220; Variance 70.223; scale 0.259

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match | Length | ID | Description | Pred. No. |
|------------|-------|-------------|--------|----------|-----------------------|-----------|
| 1 | 93 | 100.0 | 63 | 7 R38974 | NI-6 LD78 Pro7>Ser. | 5.88e-02 |
| 2 | 93 | 100.0 | 66 | 7 R38948 | NI-3 LD78. | 5.88e-02 |
| 3 | 93 | 100.0 | 69 | 7 R38982 | LD78 Lys60>Ser. | 5.88e-02 |
| 4 | 93 | 100.0 | 69 | 7 R38983 | LD78 Asp64>Ser. | 5.88e-02 |
| 5 | 93 | 100.0 | 69 | 7 R38938 | LD78 Phe28>Glu. | 5.88e-02 |
| 6 | 93 | 100.0 | 69 | 7 R38955 | LD78 Phe28>Glu. | 5.88e-02 |
| 7 | 93 | 100.0 | 69 | 7 R38932 | LD78 Asp26>Ala. | 5.88e-02 |
| 8 | 93 | 100.0 | 69 | 7 R38931 | LD78 Phe23>Asn, Ile24 | 5.88e-02 |
| 9 | 93 | 100.0 | 69 | 7 R38930 | LD78 Arg17>Ser. | 5.88e-02 |
| 10 | 93 | 100.0 | 69 | 7 R38937 | LD78 Lys60>Gln, Asp64 | 5.88e-02 |
| 11 | 93 | 100.0 | 69 | 7 R38936 | LD78 Arg47>Glu. | 5.88e-02 |
| 12 | 93 | 100.0 | 69 | 7 R38954 | LD78 Phe12>Ala. | 5.88e-02 |
| 13 | 93 | 100.0 | 69 | 7 R38929 | LD78 Phe28>Ser. | 5.88e-02 |
| 14 | 93 | 100.0 | 69 | 7 R38943 | LD78 Glu29>Arg. | 5.88e-02 |
| 15 | 93 | 100.0 | 69 | 7 R38944 | LD78 Gln18>Glu. | 5.88e-02 |
| 16 | 93 | 100.0 | 69 | 7 R38958 | LD78 Arg47>Ser. | 5.88e-02 |

17 93 100.0 69 7 R38939 LD78 Ile24>Asn. 5.88e-02
 18 93 100.0 69 7 R38959 LD78 Glu29>Ser. 5.88e-02
 19 93 100.0 69 7 R38941 LD78 Phe28>Glu, Arg47 5.88e-02
 20 93 100.0 69 7 R38927 LD78 Lys44>Glu, Arg45 5.88e-02
 21 93 100.0 69 7 R38928 LD78 Ala9>Ser. 5.88e-02
 22 93 100.0 69 7 R38945 LD78 Arg17>Ser, Gln18 5.88e-02
 23 93 100.0 69 7 R38961 LD78 Asp5>Arg. 5.88e-02
 24 93 100.0 69 7 R38977 LD78 Gln18>Ser. 5.88e-02
 25 93 100.0 69 7 R38979 LD78 Phe23>Ala. 5.88e-02
 26 93 100.0 69 7 R38978 LD78 Arg45>Ser. 5.88e-02
 27 93 100.0 69 7 R38978 LD78 Lys44>Ser. 5.88e-02
 28 93 100.0 69 7 R38985 LD78 Leu65>Ala. 5.88e-02
 29 93 100.0 69 7 R38986 LD78 Glu68>Ser. 5.88e-02
 30 93 100.0 69 7 R39084 LD78 Lys36>Ser. 5.88e-02
 31 93 100.0 69 7 R39083 LD78 Asp26>Ala, Glu29 5.88e-02
 32 93 100.0 69 7 R38965 LD78 Ala3>Glu. 5.88e-02
 33 93 100.0 69 7 R38971 LD78 Ala3>Ser. 5.88e-02
 34 93 100.0 69 7 R38970 LD78 Leu2>Ala. 5.88e-02
 35 93 100.0 69 7 R38982 LD78 Asp26>Ala, Glu29 5.88e-02
 36 93 100.0 70 7 R38949 Ala-Ser1>Pro LD78. 5.88e-02
 37 93 100.0 71 7 R38946 Ser-Ala-LD78. 5.88e-02
 38 93 100.0 72 7 R38950 Leu-Ser-Ala-Ser1>Pro 5.88e-02
 39 93 100.0 72 7 R38947 Leu-Ser-Ala-Ser1>Pro 5.88e-02
 40 93 100.0 72 7 R38962 LD78 Arg17>Glu, Gln, 5.88e-02
 41 93 100.0 92 39 W82722 Human M1A protein. 5.88e-02
 42 93 100.0 92 12 R62618 Variant stem cell inh 5.88e-02
 43 93 100.0 93 39 W82721 Human M10 protein. 5.88e-02
 44 93 100.0 93 12 R62616 Stem cell inhibitor. 5.88e-02
 45 93 100.0 93 13 R670797 MIP-1 alpha. 5.88e-02

ALIGNMENTS

RESULT 1
 ID R38974 standard; Protein: 63 AA.
 AC R38974;
 DT 23-NOV-1993 (first entry)
 DE NI-6 LD78 Pro7>Ser.
 KW SCI; stem cell inhibition; LD78; ACT2; MIP-1alpha;
 KW macrophage inflammatory protein; multimer; tumour therapy;
 KW psoriasis; hyperproliferation.
 OS Homo sapiens.
 PN W09313206-A.
 PD 08-JUL-1993.
 PF 23-DEC-1992; G02390.
 PR 23-DEC-1991; GB-027319.
 PR 14-OCT-1992; GB-021587.
 PA (BRBI-) BRITISH BIO-TECHNOLOGY LTD.
 PI Craig S, Czaplowski LG, Edwards RM, Gilbert RJ;
 PI Hunter MG;
 DR WPI; 93-227322/28.
 PT Protein with stem cell inhibition activity, e.g. LD78 or MIP-1
 PT alpha - unable to form stable multimer higher than dodecamer,
 PT providing better tissue penetration
 PS Example 49; Page 68; 294pp; English.
 CC Analogs of natural stem cell inhibitors, such as LD78 and MIP-1
 CC alpha, having mutations to prevent or reduce multimer formation
 CC beyond certain stages (e.g. dodecamer), have improved solution
 CC properties leading to enhanced productivity and greater therapeutic
 CC utility as stem cell protective agents. The analogues may be used
 CC in tumour therapy, psoriasis or other diseases involving hyper-
 CC proliferative stem cells.
 CC Most pref. LD78 analogues are Phe12>Gln, Lys44>Ser, Arg17>Glu (with
 CC Gln18>Glu) and, esp., Asp26>Ala and Glu66>Ser. Pref. MIP-1alpha
 CC analogues correspond to the pref. LD78 analogues.
 SQ Sequence 63 AA;

Query Match 100.0%; Score 93; DB 7; Length 63;

Best Local Similarity 100.0%; Pred. No. 5.88e-02;

Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 42 qvcadpseewwq 53

|||||||

QY 1 QVCADPSEEWQ 12

RESULT 2

ID R38948 standard; Protein; 66 AA.
 AC R38948;
 DT 23-NOV-1993 (first entry)
 DE NL-3 LD78.
 KW SCI; stem cell inhibition; LD78; ACT2; MIP-lalpa;
 KW macrophage inflammatory protein; multimer; tumour therapy;
 KW psoriasis; hyperproliferation.
 OS Homo sapiens.
 PN WO9313206-A.
 PD 08-JUL-1993.
 PF 23-DEC-1992; G02390.
 PR 23-DEC-1991; GB-027319.
 PR 14-OCT-1992; GB-021587.
 PA (BRBI-) BRITISH BIO-TECHNOLOGY LTD.
 PI Craig S., Czaplowski LG, Edwards RM, Gilbert RJ;
 PI Hunter MG;
 DR WPI; 93-227322/28.
 PT Protein with stem cell inhibition activity, e.g. LD78 or MIP-1
 PT alpha - unable to form stable multimer higher than dodecamer,
 PT providing better tissue penetration
 PS Example 23; Page 58; 294pp; English.
 CC Analogues of natural stem cell inhibitors, such as LD78 and MIP-
 CC lalpa, having mutations to prevent or reduce multimer formation
 CC beyond certain stages (e.g. dodecamer), have improved solution
 CC properties leading to enhanced productivity and greater therapeutic
 CC utility as stem cell protective agents. The analogues may be used
 CC in tumour therapy, psoriasis or other diseases involving hyper-
 CC proliferative stem cells.
 CC Most pref. LD78 analogues are Phe12>Gln, Lys44>Ser, Arg17>Glu (with
 CC Gln18>Glu) and, esp., Asp26>Ala and Glu66>Ser. Pref. MIP-lalpa
 CC analogues correspond to the pref. LD78 analogues.
 SQ Sequence 66 AA;

Query Match 100.0%; Score 93; DB 7; Length 66;
 Best Local Similarity 100.0%; Pred. No. 5.88e-02;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 45 qvcadpseewwq 56
 | | | | | | | | | |
 QY 1 QVCADPSEEWQ 12

RESULT 3

ID R38982 standard; Protein; 69 AA.
 AC R38982;
 DT 23-NOV-1993 (first entry)
 DE LD78 Lys60>Ser.
 KW SCI; stem cell inhibition; LD78; ACT2; MIP-lalpa;
 KW macrophage inflammatory protein; multimer; tumour therapy;
 KW psoriasis; hyperproliferation.
 OS Homo sapiens.
 PN WO9313206-A.
 PD 08-JUL-1993.
 PF 23-DEC-1992; G02390.
 PR 23-DEC-1991; GB-027319.
 PR 14-OCT-1992; GB-021587.
 PA (BRBI-) BRITISH BIO-TECHNOLOGY LTD.
 PI Craig S., Czaplowski LG, Edwards RM, Gilbert RJ;
 PI Hunter MG;
 DR WPI; 93-227322/28.
 PT Protein with stem cell inhibition activity, e.g. LD78 or MIP-1
 PT alpha - unable to form stable multimer higher than dodecamer,
 PT providing better tissue penetration
 PS Example 57; Page 70-71; 294pp; English.
 CC Analogues of natural stem cell inhibitors, such as LD78 and MIP-
 CC lalpa, having mutations to prevent or reduce multimer formation
 CC beyond certain stages (e.g. dodecamer), have improved solution
 CC properties leading to enhanced productivity and greater therapeutic
 CC utility as stem cell protective agents. The analogues may be used

CC in tumour therapy, psoriasis or other diseases involving hyper-
 CC proliferative stem cells.
 CC Most pref. LD78 analogues are Phe12>Gln, Lys44>Ser, Arg17>Glu (with
 CC Gln18>Glu) and, esp., Asp26>Ala and Glu66>Ser. Pref. MIP-lalpa
 CC analogues correspond to the pref. LD78 analogues.
 SQ Sequence 69 AA;

Query Match 100.0%; Score 93; DB 7; Length 69;
 Best Local Similarity 100.0%; Pred. No. 5.88e-02;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 48 qvcadpseewwq 59
 | | | | | | | | | |
 QY 1 QVCADPSEEWQ 12

RESULT 4

ID R38983 standard; Protein; 69 AA.
 AC R38983;
 DT 23-NOV-1993 (first entry)
 DE LD78 Asp64>Ser.
 KW SCI; stem cell inhibition; LD78; ACT2; MIP-lalpa;
 KW macrophage inflammatory protein; multimer; tumour therapy;
 KW psoriasis; hyperproliferation.
 OS Homo sapiens.
 PN WO9313206-A.
 PD 08-JUL-1993.
 PF 23-DEC-1992; G02390.
 PR 23-DEC-1991; GB-027319.
 PR 14-OCT-1992; GB-021587.
 PA (BRBI-) BRITISH BIO-TECHNOLOGY LTD.
 PI Craig S., Czaplowski LG, Edwards RM, Gilbert RJ;
 PI Hunter MG;
 DR WPI; 93-227322/28.
 PT Protein with stem cell inhibition activity, e.g. LD78 or MIP-1
 PT alpha - unable to form stable multimer higher than dodecamer,
 PT providing better tissue penetration
 PS Example 58; Page 71; 294pp; English.
 CC Analogues of natural stem cell inhibitors, such as LD78 and MIP-
 CC lalpa, having mutations to prevent or reduce multimer formation
 CC beyond certain stages (e.g. dodecamer), have improved solution
 CC properties leading to enhanced productivity and greater therapeutic
 CC utility as stem cell protective agents. The analogues may be used
 CC in tumour therapy, psoriasis or other diseases involving hyper-
 CC proliferative stem cells.
 CC Most pref. LD78 analogues are Phe12>Gln, Lys44>Ser, Arg17>Glu (with
 CC Gln18>Glu) and, esp., Asp26>Ala and Glu66>Ser. Pref. MIP-lalpa
 CC analogues correspond to the pref. LD78 analogues.
 SQ Sequence 69 AA;

Query Match 100.0%; Score 93; DB 7; Length 69;
 Best Local Similarity 100.0%; Pred. No. 5.88e-02;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 48 qvcadpseewwq 59
 | | | | | | | | | |
 QY 1 QVCADPSEEWQ 12

RESULT 5

ID R38938 standard; Protein; 69 AA.
 AC R38938;
 DT 23-NOV-1993 (first entry)
 DE LD78 Phe28>Glu.
 KW SCI; stem cell inhibition; LD78; ACT2; MIP-lalpa;
 KW macrophage inflammatory protein; multimer; tumour therapy;
 KW psoriasis; hyperproliferation.
 OS Homo sapiens.
 PN WO9313206-A.
 PD 08-JUL-1993.
 PF 23-DEC-1992; G02390.
 PR 23-DEC-1991; GB-027319.
 PR 14-OCT-1992; GB-021587.

PA (BRBI-) BRITISH BIO-TECHNOLOGY LTD.
 PI Craig S, Czaplowski LG, Edwards RM, Gilbert RJ;
 PI Hunter MG;
 DR WPI; 93-227322/28.
 PT Protein with stem cell inhibition activity, e.g. LD78 or MIP-1
 PT alpha - unable to form stable multimer higher than dodecamer,
 PT providing better tissue penetration
 PS Example 13; Page 54; 294pp; English.
 CC Analogues of natural stem cell inhibitors, such as LD78 and MIP-
 CC lalpa, having mutations to prevent or reduce multimer formation
 CC beyond certain stages (e.g. dodecamer), have improved solution
 CC properties leading to enhanced productivity and greater therapeutic
 CC utility as stem cell protective agents. The analogues may be used
 CC in tumour therapy, psoriasis or other diseases involving hyper-
 CC proliferative stem cells.
 CC Most pref. LD78 analogues are Phel2>Gln, Lys44>Ser, Arg17>Glu (with
 CC Gln18>Glu) and, esp., Asp26>Ala and Glu66>Ser. Pref. MIP-lalpa
 CC analogues correspond to the pref. LD78 analogues.
 SQ Sequence 69 AA;
 Query Match 100.0%; Score 93; DB 7; Length 69;
 Best Local Similarity 100.0%; Pred. No. 5.88e-02;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Db 48 qvcadpseewvq 59
 |||||
 QY 1 QVCADPSEEWVQ 12
 RESULT 6
 ID R38955 standard; Protein; 69 AA.
 AC R38955;
 DT 23-NOV-1993 (first entry)
 DE LD78 Phe28>Ala.
 KW SCI; stem cell inhibition; LD78; ACT2; MIP-lalpa;
 KW macrophage inflammatory protein; multimer; tumour therapy;
 KW psoriasis; hyperproliferation.
 OS Homo sapiens.
 PN WO9313206-A.
 PD 08-JUL-1993.
 PF 23-DEC-1992; G02390.
 PR 23-DEC-1991; GB-027319.
 PR 14-OCT-1992; GB-021587.
 PA (BRBI-) BRITISH BIO-TECHNOLOGY LTD.
 PI Craig S, Czaplowski LG, Edwards RM, Gilbert RJ;
 PI Hunter MG;
 DR WPI; 93-227322/28.
 PT Protein with stem cell inhibition activity, e.g. LD78 or MIP-1
 PT alpha - unable to form stable multimer higher than dodecamer,
 PT providing better tissue penetration
 PS Example 30; Page 61; 294pp; English.
 CC Analogues of natural stem cell inhibitors, such as LD78 and MIP-
 CC lalpa, having mutations to prevent or reduce multimer formation
 CC beyond certain stages (e.g. dodecamer), have improved solution
 CC properties leading to enhanced productivity and greater therapeutic
 CC utility as stem cell protective agents. The analogues may be used
 CC in tumour therapy, psoriasis or other diseases involving hyper-
 CC proliferative stem cells.
 CC Most pref. LD78 analogues are Phel2>Gln, Lys44>Ser, Arg17>Glu (with
 CC Gln18>Glu) and, esp., Asp26>Ala and Glu66>Ser. Pref. MIP-lalpa
 CC analogues correspond to the pref. LD78 analogues.
 SQ Sequence 69 AA;
 Query Match 100.0%; Score 93; DB 7; Length 69;
 Best Local Similarity 100.0%; Pred. No. 5.88e-02;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Db 48 qvcadpseewvq 59
 |||||
 QY 1 QVCADPSEEWVQ 12
 RESULT 7
 ID R38955 standard; Protein; 69 AA.
 AC R38955;
 DT 23-NOV-1993 (first entry)
 DE LD78 Phe28>Ala.
 KW SCI; stem cell inhibition; LD78; ACT2; MIP-lalpa;
 KW macrophage inflammatory protein; multimer; tumour therapy;
 KW psoriasis; hyperproliferation.
 OS Homo sapiens.
 PN WO9313206-A.
 PD 08-JUL-1993.
 PF 23-DEC-1992; G02390.
 PR 23-DEC-1991; GB-027319.
 PR 14-OCT-1992; GB-021587.
 PA (BRBI-) BRITISH BIO-TECHNOLOGY LTD.
 PI Craig S, Czaplowski LG, Edwards RM, Gilbert RJ;
 PI Hunter MG;
 DR WPI; 93-227322/28.
 PT Protein with stem cell inhibition activity, e.g. LD78 or MIP-1
 PT alpha - unable to form stable multimer higher than dodecamer,
 PT providing better tissue penetration
 PS Example 30; Page 61; 294pp; English.
 CC Analogues of natural stem cell inhibitors, such as LD78 and MIP-
 CC lalpa, having mutations to prevent or reduce multimer formation
 CC beyond certain stages (e.g. dodecamer), have improved solution
 CC properties leading to enhanced productivity and greater therapeutic
 CC utility as stem cell protective agents. The analogues may be used
 CC in tumour therapy, psoriasis or other diseases involving hyper-
 CC proliferative stem cells.
 CC Most pref. LD78 analogues are Phel2>Gln, Lys44>Ser, Arg17>Glu (with
 CC Gln18>Glu) and, esp., Asp26>Ala and Glu66>Ser. Pref. MIP-lalpa
 CC analogues correspond to the pref. LD78 analogues.
 SQ Sequence 69 AA;
 Query Match 100.0%; Score 93; DB 7; Length 69;
 Best Local Similarity 100.0%; Pred. No. 5.88e-02;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Db 48 qvcadpseewvq 59
 |||||
 QY 1 QVCADPSEEWVQ 12

ID R38932 standard; Protein; 69 AA.
 AC R38932;
 DT 23-NOV-1993 (first entry)
 DE LD78 Asp26>Ala.
 KW SCI; stem cell inhibition; LD78; ACT2; MIP-lalpa;
 KW macrophage inflammatory protein; multimer; tumour therapy;
 KW psoriasis; hyperproliferation.
 OS Homo sapiens.
 PN WO9313206-A.
 PD 08-JUL-1993.
 PF 23-DEC-1992; G02390.
 PR 23-DEC-1991; GB-027319.
 PR 14-OCT-1992; GB-021587.
 PA (BRBI-) BRITISH BIO-TECHNOLOGY LTD.
 PI Craig S, Czaplowski LG, Edwards RM, Gilbert RJ;
 PI Hunter MG;
 DR WPI; 93-227322/28.
 PT Protein with stem cell inhibition activity, e.g. LD78 or MIP-1
 PT alpha - unable to form stable multimer higher than dodecamer,
 PT providing better tissue penetration
 PS Example 7; Page 52; 294pp; English.
 CC Analogues of natural stem cell inhibitors, such as LD78 and MIP-
 CC lalpa, having mutations to prevent or reduce multimer formation
 CC beyond certain stages (e.g. dodecamer), have improved solution
 CC properties leading to enhanced productivity and greater therapeutic
 CC utility as stem cell protective agents. The analogues may be used
 CC in tumour therapy, psoriasis or other diseases involving hyper-
 CC proliferative stem cells.
 CC Most pref. LD78 analogues are Phel2>Gln, Lys44>Ser, Arg17>Glu (with
 CC Gln18>Glu) and, esp., Asp26>Ala and Glu66>Ser. Pref. MIP-lalpa
 CC analogues correspond to the pref. LD78 analogues.
 SQ Sequence 69 AA;
 Query Match 100.0%; Score 93; DB 7; Length 69;
 Best Local Similarity 100.0%; Pred. No. 5.88e-02;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Db 48 qvcadpseewvq 59
 |||||
 QY 1 QVCADPSEEWVQ 12
 RESULT 8
 ID R38931 standard; Protein; 69 AA.
 AC R38931;
 DT 23-NOV-1993 (first entry)
 DE LD78 Phe23>Asn, Ile24>Thr.
 KW SCI; stem cell inhibition; LD78; ACT2; MIP-lalpa;
 KW macrophage inflammatory protein; multimer; tumour therapy;
 KW psoriasis; hyperproliferation.
 OS Homo sapiens.
 PN WO9313206-A.
 PD 08-JUL-1993.
 PF 23-DEC-1992; G02390.
 PR 23-DEC-1991; GB-027319.
 PR 14-OCT-1992; GB-021587.
 PA (BRBI-) BRITISH BIO-TECHNOLOGY LTD.
 PI Craig S, Czaplowski LG, Edwards RM, Gilbert RJ;
 PI Hunter MG;
 DR WPI; 93-227322/28.
 PT Protein with stem cell inhibition activity, e.g. LD78 or MIP-1
 PT alpha - unable to form stable multimer higher than dodecamer,
 PT providing better tissue penetration
 PS Example 6; Page 52; 294pp; English.
 CC Analogues of natural stem cell inhibitors, such as LD78 and MIP-
 CC lalpa, having mutations to prevent or reduce multimer formation
 CC beyond certain stages (e.g. dodecamer), have improved solution
 CC properties leading to enhanced productivity and greater therapeutic
 CC utility as stem cell protective agents. The analogues may be used
 CC in tumour therapy, psoriasis or other diseases involving hyper-
 CC proliferative stem cells.
 CC Most pref. LD78 analogues are Phel2>Gln, Lys44>Ser, Arg17>Glu (with
 CC Gln18>Glu) and, esp., Asp26>Ala and Glu66>Ser. Pref. MIP-lalpa
 CC analogues correspond to the pref. LD78 analogues.
 SQ Sequence 69 AA;
 Query Match 100.0%; Score 93; DB 7; Length 69;
 Best Local Similarity 100.0%; Pred. No. 5.88e-02;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Db 48 qvcadpseewvq 59
 |||||
 QY 1 QVCADPSEEWVQ 12

CC analogues correspond to the pref. LD78 analogues.
SQ Sequence 69 AA;

Query Match 100.0%; Score 93; DB 7; Length 69;
Best Local Similarity 100.0%; Pred. No. 5.88e-02;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 48 qvcadpseewvq 59
QY 1 QVCADPSEEWVQ 12

RESULT 9

ID R38930 standard; Protein; 69 AA.
AC R38930;
DT 23-NOV-1993 (first entry)
DE LD78 Arg17>Ser.
KW SCI; stem cell inhibition; LD78; ACT2; MIP-lalpa;
KW macrophage inflammatory protein; multimer; tumour therapy;
KW psoriasis; hyperproliferation.
OS Homo sapiens.
PN WO9313206-A.
PD 08-JUL-1993.
PF 23-DEC-1992; G02390.
PR 23-DEC-1991; GB-027319.
PR 14-OCT-1992; GB-021587.
PA (BRBI-) BRITISH BIO-TECHNOLOGY LTD.
PI Craig S., Czaplowski LG, Edwards RM, Gilbert RJ;
PI Hunter MG;
DR WPI; 93-227322/28.

PT Protein with stem cell inhibition activity, e.g. LD78 or MIP-1
PT alpha - unable to form stable multimer higher than dodecamer,
PT providing better tissue penetration
PS Example 5; Page 51; 294pp; English.
CC Analogues of natural stem cell inhibitors, such as LD78 and MIP-
CC 1alpha, having mutations to prevent or reduce multimer formation
CC beyond certain stages (e.g. dodecamer), have improved solution
CC properties leading to enhanced productivity and greater therapeutic
CC utility as stem cell protective agents. The analogues may be used
CC in tumour therapy, psoriasis or other diseases involving hyper-
CC proliferative stem cells.
CC Most pref. LD78 analogues are Phe12>Gln, Lys44>Ser, Arg17>Glu (with
CC Gln18>Glu) and, esp., Asp26>Ala and Glu66>Ser. Pref. MIP-lalpa
CC analogues correspond to the pref. LD78 analogues.
SQ Sequence 69 AA;

Query Match 100.0%; Score 93; DB 7; Length 69;
Best Local Similarity 100.0%; Pred. No. 5.88e-02;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 48 qvcadpseewvq 59
QY 1 QVCADPSEEWVQ 12

RESULT 10

ID R38937 standard; Protein; 69 AA.
AC R38937;
DT 23-NOV-1993 (first entry)
DE LD78 Lys60>Gln, Asp64>Asn.
KW SCI; stem cell inhibition; LD78; ACT2; MIP-lalpa;
KW macrophage inflammatory protein; multimer; tumour therapy;
KW psoriasis; hyperproliferation.
OS Homo sapiens.
PN WO9313206-A.
PD 08-JUL-1993.
PF 23-DEC-1992; G02390.
PR 23-DEC-1991; GB-027319.
PR 14-OCT-1992; GB-021587.
PA (BRBI-) BRITISH BIO-TECHNOLOGY LTD.
PI Craig S., Czaplowski LG, Edwards RM, Gilbert RJ;
PI Hunter MG;
DR WPI; 93-227322/28.

PT Protein with stem cell inhibition activity, e.g. LD78 or MIP-1
PT alpha - unable to form stable multimer higher than dodecamer,
PT providing better tissue penetration
PS Example 12; Page 54; 294pp; English.
CC Analogues of natural stem cell inhibitors, such as LD78 and MIP-
CC 1alpha, having mutations to prevent or reduce multimer formation
CC beyond certain stages (e.g. dodecamer), have improved solution
CC properties leading to enhanced productivity and greater therapeutic
CC utility as stem cell protective agents. The analogues may be used
CC in tumour therapy, psoriasis or other diseases involving hyper-
CC proliferative stem cells.
CC Most pref. LD78 analogues are Phe12>Gln, Lys44>Ser, Arg17>Glu (with
CC Gln18>Glu) and, esp., Asp26>Ala and Glu66>Ser. Pref. MIP-lalpa
CC analogues correspond to the pref. LD78 analogues.
SQ Sequence 69 AA;

Query Match 100.0%; Score 93; DB 7; Length 69;
Best Local Similarity 100.0%; Pred. No. 5.88e-02;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 48 qvcadpseewvq 59
QY 1 QVCADPSEEWVQ 12

RESULT 11

ID R38936 standard; Protein; 69 AA.
AC R38936;
DT 23-NOV-1993 (first entry)
DE LD78 Arg47>Glu.
KW SCI; stem cell inhibition; LD78; ACT2; MIP-lalpa;
KW macrophage inflammatory protein; multimer; tumour therapy;
KW psoriasis; hyperproliferation.
OS Homo sapiens.
PN WO9313206-A.
PD 08-JUL-1993.
PF 23-DEC-1992; G02390.
PR 23-DEC-1991; GB-027319.
PR 14-OCT-1992; GB-021587.
PA (BRBI-) BRITISH BIO-TECHNOLOGY LTD.
PI Craig S., Czaplowski LG, Edwards RM, Gilbert RJ;
PI Hunter MG;
DR WPI; 93-227322/28.

PT Protein with stem cell inhibition activity, e.g. LD78 or MIP-1
PT alpha - unable to form stable multimer higher than dodecamer,
PT providing better tissue penetration
PS Example 11; Page 53; 294pp; English.
CC Analogues of natural stem cell inhibitors, such as LD78 and MIP-
CC 1alpha, having mutations to prevent or reduce multimer formation
CC beyond certain stages (e.g. dodecamer), have improved solution
CC properties leading to enhanced productivity and greater therapeutic
CC utility as stem cell protective agents. The analogues may be used
CC in tumour therapy, psoriasis or other diseases involving hyper-
CC proliferative stem cells.
CC Most pref. LD78 analogues are Phe12>Gln, Lys44>Ser, Arg17>Glu (with
CC Gln18>Glu) and, esp., Asp26>Ala and Glu66>Ser. Pref. MIP-lalpa
CC analogues correspond to the pref. LD78 analogues.
SQ Sequence 69 AA;

Query Match 100.0%; Score 93; DB 7; Length 69;
Best Local Similarity 100.0%; Pred. No. 5.88e-02;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 48 qvcadpseewvq 59
QY 1 QVCADPSEEWVQ 12

RESULT 12

ID R38954 standard; Protein; 69 AA.
AC R38954;
DT 23-NOV-1993 (first entry)
DE LD78 Phe12>Ala.

KW SCI; stem cell inhibition; LD78; ACT2; MIP-lalpa;
KW macrophage inflammatory protein; multimer; tumour therapy;
KW psoriasis; hyperproliferation.
OS Homo sapiens.
PN WO9313206-A.
PD 08-JUL-1993. G02390.
PF 23-DEC-1992. GB-027319.
PR 23-DEC-1991; GB-027319.
PR 14-OCT-1992; GB-021587.
PA (BRBI-) BRITISH BIO-TECHNOLOGY LTD.
PI Craig S, Czaplowski LG, Edwards RM, Gilbert RJ;
PI Hunter MG;
DR WPI; 93-227322/28.
PT Protein with stem cell inhibition activity, e.g. LD78 or MIP-1
PT alpha - unable to form stable multimer higher than dodecamer,
PT providing better tissue penetration
PS Example 29; Page 60; 294pp; English.
CC Analogues of natural stem cell inhibitors, such as LD78 and MIP-
CC lalpa, having mutations to prevent or reduce multimer formation
CC beyond certain stages (e.g. dodecamer), have improved solution
CC properties leading to enhanced productivity and greater therapeutic
CC utility as stem cell protective agents. The analogues may be used
CC in tumour therapy, psoriasis or other diseases involving hyper-
CC proliferative stem cells.
CC Most pref. LD78 analogues are Phe12>Gln, Lys44>Ser, Arg17>Glu (with
CC Gln18>Glu) and, esp., Asp26>Ala and Glu66>Ser. Pref. MIP-lalpa
CC analogues correspond to the pref. LD78 analogues.
SQ Sequence 69 AA;

Query Match 100.0%; Score 93; DB 7; Length 69;
Best Local Similarity 100.0%; Pred. No. 5.88e-02;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Db 48 qvcadpseewvq 59
|||||
QY 1 QVCADPSEEWVQ 12

RESULT 13
ID R38929 standard; Protein; 69 AA.
AC R38929;
DT 23-NOV-1993 (first entry)
DE LD78 Phe28>Ser.
KW SCI; stem cell inhibition; LD78; ACT2; MIP-lalpa;
KW macrophage inflammatory protein; multimer; tumour therapy;
KW psoriasis; hyperproliferation.
OS Homo sapiens.
PN WO9313206-A.
PD 08-JUL-1993.
PF 23-DEC-1992; G02390.
PR 23-DEC-1991; GB-027319.
PR 14-OCT-1992; GB-021587.
PA (BRBI-) BRITISH BIO-TECHNOLOGY LTD.
PI Craig S, Czaplowski LG, Edwards RM, Gilbert RJ;
PI Hunter MG;
DR WPI; 93-227322/28.
PT Protein with stem cell inhibition activity, e.g. LD78 or MIP-1
PT alpha - unable to form stable multimer higher than dodecamer,
PT providing better tissue penetration
PS Example 4; Page 51; 294pp; English.
CC Analogues of natural stem cell inhibitors, such as LD78 and MIP-
CC lalpa, having mutations to prevent or reduce multimer formation
CC beyond certain stages (e.g. dodecamer), have improved solution
CC properties leading to enhanced productivity and greater therapeutic
CC utility as stem cell protective agents. The analogues may be used
CC in tumour therapy, psoriasis or other diseases involving hyper-
CC proliferative stem cells.
CC Most pref. LD78 analogues are Phe12>Gln, Lys44>Ser, Arg17>Glu (with
CC Gln18>Glu) and, esp., Asp26>Ala and Glu66>Ser. Pref. MIP-lalpa
CC analogues correspond to the pref. LD78 analogues.
SQ Sequence 69 AA;

Query Match 100.0%; Score 93; DB 7; Length 69;

Best Local Similarity 100.0%; Pred. No. 5.88e-02;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Db 48 qvcadpseewvq 59
|||||
QY 1 QVCADPSEEWVQ 12

RESULT 14
ID R38943 standard; Protein; 69 AA.
AC R38943;
DT 23-NOV-1993 (first entry)
DE LD78 Glu29>Arg.
KW SCI; stem cell inhibition; LD78; ACT2; MIP-lalpa;
KW macrophage inflammatory protein; multimer; tumour therapy;
KW psoriasis; hyperproliferation.
OS Homo sapiens.
PN WO9313206-A.
PD 08-JUL-1993. G02390.
PF 23-DEC-1992; GB-027319.
PR 23-DEC-1991; GB-027319.
PR 14-OCT-1992; GB-021587.
PA (BRBI-) BRITISH BIO-TECHNOLOGY LTD.
PI Craig S, Czaplowski LG, Edwards RM, Gilbert RJ;
PI Hunter MG;
DR WPI; 93-227322/28.
PT Protein with stem cell inhibition activity, e.g. LD78 or MIP-1
PT alpha - unable to form stable multimer higher than dodecamer,
PT providing better tissue penetration
PS Example 18; Page 56; 294pp; English.
CC Analogues of natural stem cell inhibitors, such as LD78 and MIP-
CC lalpa, having mutations to prevent or reduce multimer formation
CC beyond certain stages (e.g. dodecamer), have improved solution
CC properties leading to enhanced productivity and greater therapeutic
CC utility as stem cell protective agents. The analogues may be used
CC in tumour therapy, psoriasis or other diseases involving hyper-
CC proliferative stem cells.
CC Most pref. LD78 analogues are Phe12>Gln, Lys44>Ser, Arg17>Glu (with
CC Gln18>Glu) and, esp., Asp26>Ala and Glu66>Ser. Pref. MIP-lalpa
CC analogues correspond to the pref. LD78 analogues.
SQ Sequence 69 AA;

Query Match 100.0%; Score 93; DB 7; Length 69;
Best Local Similarity 100.0%; Pred. No. 5.88e-02;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Db 48 qvcadpseewvq 59
|||||
QY 1 QVCADPSEEWVQ 12

RESULT 15
ID R38944 standard; Protein; 69 AA.
AC R38944;
DT 23-NOV-1993 (first entry)
DE LD78 Glu18>Glu
KW SCI; stem cell inhibition; LD78; ACT2; MIP-lalpa;
KW macrophage inflammatory protein; multimer; tumour therapy;
KW psoriasis; hyperproliferation.
OS Homo sapiens.
PN WO9313206-A.
PD 08-JUL-1993. G02390.
PF 23-DEC-1992; G02390.
PR 23-DEC-1991; GB-027319.
PR 14-OCT-1992; GB-021587.
PA (BRBI-) BRITISH BIO-TECHNOLOGY LTD.
PI Craig S, Czaplowski LG, Edwards RM, Gilbert RJ;
PI Hunter MG;
DR WPI; 93-227322/28.
PT Protein with stem cell inhibition activity, e.g. LD78 or MIP-1
PT alpha - unable to form stable multimer higher than dodecamer,
PT providing better tissue penetration
PS Example 19; Page 56; 294pp; English.

CC Analogues of natural stem cell inhibitors, such as LD78 and MIP-
 CC lalpa, having mutations to prevent or reduce multimer formation
 CC beyond certain stages (e.g. dodecamer), have improved solution
 CC properties leading to enhanced productivity and greater therapeutic
 CC utility as stem cell protective agents. The analogues may be used
 CC in tumour therapy, psoriasis or other diseases involving hyper-
 CC proliferative stem cells.
 CC Most pref. LD78 analogues are Phe12>Gln, Lys44>Ser, Arg17>Glu (with
 CC Gln18>Glu) and, esp., Asp26>Ala and Glu66>Ser. Pref. MIP-lalpa
 CC analogues correspond to the pref. LD78 analogues.
 SQ Sequence 69 AA;

Query Match 100.0%; Score 93; DB 7; Length 69;
 Best Local Similarity 100.0%; Pred.No. 5.88e-02;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 48 qvcadpseewvq 59
 QY 1 QVCADPSEEWVQ 12

Search completed: Fri Feb 4 17:20:57 2000
 Job time : 19 secs.

M P S R L H
(TM)

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MPsrch_pp protein - protein database search, using Smith-Waterman algorithm

Run on: Fri Feb 4 17:27:45 2000; MasPar time 2.52 Seconds
Tabular output not generated. 134.616 Million cell updates/sec

Title: >US-09-150-813-43
Description: (1-12) from US09150813.pep
Perfect Score: 91
Sequence: 1 QVCADPSESWSQ 12

Scoring table: PAM 150
Gap 15

Searched: 77977 seqs, 28268293 residues

Post-processing: Minimum Match 0%
Listing first 45 summaries

Database: swiss-prot37
1:swissprot

Statistics: Mean 25.122; Variance 33.379; scale 0.753

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match % | Description | ID | Pred. No. |
|------------|-------|---------------|------------------------|---------------|-----------|
| 1 | 91 | 100.0 | MACROPHAGE INFLAMMATOR | 1 MIIB_HUMAN | 2.87e-08 |
| 2 | 88 | 96.7 | MACROPHAGE INFLAMMATOR | 2 MIIB_RABIT | 1.53e-07 |
| 3 | 86 | 94.5 | MACROPHAGE INFLAMMATOR | 3 MI10_HUMAN | 4.59e-07 |
| 4 | 86 | 94.5 | MACROPHAGE INFLAMMATOR | 4 MI10_HUMAN | 4.59e-07 |
| 5 | 82 | 90.1 | MACROPHAGE INFLAMMATOR | 5 MI1A_RAT | 4.04e-06 |
| 6 | 79 | 86.8 | MACROPHAGE INFLAMMATOR | 6 MI1B_RAT | 2.01e-05 |
| 7 | 77 | 84.6 | MACROPHAGE INFLAMMATOR | 7 MCP1_CAVPO | 9.78e-05 |
| 8 | 76 | 83.5 | MACROPHAGE INFLAMMATOR | 8 MI1B_MOUSE | 1.65e-04 |
| 9 | 75 | 82.4 | MACROPHAGE INFLAMMATOR | 9 MCP4_MOUSE | 1.65e-04 |
| 10 | 75 | 82.4 | MACROPHAGE INFLAMMATOR | 10 MCP3_HUMAN | 1.65e-04 |
| 11 | 75 | 82.4 | MACROPHAGE INFLAMMATOR | 11 MCP4_HUMAN | 1.65e-04 |
| 12 | 74 | 81.3 | MACROPHAGE INFLAMMATOR | 12 CCG1_HUMAN | 2.76e-04 |
| 13 | 73 | 80.2 | MACROPHAGE INFLAMMATOR | 13 MCP2_PIG | 4.63e-04 |
| 14 | 73 | 80.2 | MACROPHAGE INFLAMMATOR | 14 CCG3_HUMAN | 4.63e-04 |
| 15 | 73 | 80.2 | MACROPHAGE INFLAMMATOR | 15 MCP1_HUMAN | 7.72e-04 |
| 16 | 72 | 79.1 | MACROPHAGE INFLAMMATOR | 16 MCP2_BOVIN | 7.72e-04 |
| 17 | 72 | 79.1 | MACROPHAGE INFLAMMATOR | 17 MCP1_CANFA | 7.72e-04 |
| 18 | 72 | 79.1 | MACROPHAGE INFLAMMATOR | 18 MCP1_MOUSE | 1.28e-03 |
| 19 | 71 | 78.0 | T-CELL SPECIFIC RANTES | 19 SISD_MOUSE | 1.28e-03 |
| 20 | 71 | 78.0 | T-CELL SPECIFIC RANTES | 20 SISD_MOUSE | 1.28e-03 |
| 21 | 71 | 78.0 | MACROPHAGE INFLAMMATOR | 21 MCP2_HUMAN | 1.28e-03 |
| 22 | 71 | 78.0 | MACROPHAGE INFLAMMATOR | 22 MCP1_PIG | 1.28e-03 |
| 23 | 70 | 76.9 | MACROPHAGE INFLAMMATOR | 23 MI1B_CHICK | 2.13e-03 |

ALIGNMENTS

| RESULT | 1 | MIIB_HUMAN | STANDARD: | PRT: | 92 AA. |
|--------|---|-----------------------------------|-----------|------|--------|
| ID | MIIB_HUMAN | STANDARD: | Q13704: | | |
| AC | P12336: | P22617: | Q13704: | | |
| DT | 01-JAN-1990 | (REL. 13, CREATED) | | | |
| DT | 01-JAN-1990 | (REL. 13, LAST SEQUENCE UPDATE) | | | |
| DT | 01-NOV-1997 | (REL. 35, LAST ANNOTATION UPDATE) | | | |
| DE | MACROPHAGE INFLAMMATORY PROTEIN 1-BETA PRECURSOR (MIP-1-BETA) (T-CELL ACTIVATION PROTEIN 2) (ACT-2) (PAT 744) (H4000) (SIS-GAMMA) (LYMPHOCYTE DE ACTIVATION GENE-1 PROTEIN) (LAG-1) (HC21) (SMALL INDUCIBLE CYTOKINE DE A4) (G-26 T LYMPHOCYTE-SECRETED PROTEIN). | | | | |
| GN | SCYA4 OR MIP1B OR LAG1. | | | | |
| OS | HOMO SAPIENS (HUMAN). | | | | |
| OC | EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; | | | | |
| NC | PRIMATES; CATARRHINI; HOMINIDAE; HOMO. | | | | |
| RC | [1] | | | | |
| RP | SEQUENCE FROM N.A. | | | | |
| RX | MEDLINE: 89071764. | | | | |
| RA | LIPES M.A., NAPOLITANO M., JEANG K.-T., CHANG N.T., LEONARD W.J.; | | | | |
| RT | "Identification, cloning, and characterization of an immune activation gene." | | | | |
| RL | PROC. NATL. ACAD. SCI. U.S.A. 85:9704-9708(1988). | | | | |
| RN | [2] | | | | |
| RP | SEQUENCE FROM N.A. | | | | |
| RX | MEDLINE: 89140347. | | | | |
| RA | ZIPFEL P.F., BALKE J., IRVING S.G., KELLY K., STEBENLIST U.; | | | | |
| RT | "Mitogenic activation of human T cells induces two closely related genes which share structural similarities with a new family of secreted factors." | | | | |
| RL | J. IMMUNOL. 142:1582-1590(1989). | | | | |
| RN | [3] | | | | |
| RP | SEQUENCE FROM N.A. | | | | |
| RX | MEDLINE: 89093958. | | | | |
| RA | BROWN K.D., ZURAWSKI S.M., MOSMANN T.R., ZURAWSKI G.; | | | | |
| RT | "A family of small inducible proteins secreted by leukocytes are members of a new superfamily that includes leukocyte and fibroblast-derived inflammatory agents, growth factors, and indicators of various activation processes." | | | | |
| RL | J. IMMUNOL. 142:679-687(1989). | | | | |
| RN | [4] | | | | |
| RP | SEQUENCE FROM N.A. | | | | |
| RX | MEDLINE: 91061800. | | | | |
| RA | BATXERAS E., ROMAN-ROMAN S., JITSUKAWA S., GENEVEE C., MECHICHE S.; | | | | |
| RT | VIEGAS-PERQUIGNOT E., HERCEND T., TRIEBEL F.; | | | | |
| RL | "Cloning and expression of a lymphocyte activation gene (LAG-1)." | | | | |
| RN | MOL. IMMUNOL. 27:1091-1102(1990). | | | | |
| RP | [5] | | | | |
| RP | SEQUENCE FROM N.A. | | | | |

| | | | | | | | |
|----|----|------|-----|---|------------|-------------------------|----------|
| 24 | 70 | 76.9 | 101 | 1 | IL8_CANFA | INTERLEUKIN-8 PRECURSOR | 2.13e-03 |
| 25 | 70 | 76.9 | 101 | 1 | IL8_SHEEP | INTERLEUKIN-8 PRECURSOR | 2.13e-03 |
| 26 | 70 | 76.9 | 103 | 1 | IL8_PIG | INTERLEUKIN-8 PRECURSOR | 2.13e-03 |
| 27 | 70 | 76.9 | 148 | 1 | MCPI_RAT | MONOCYTE CHEMOTACTIC P | 2.13e-03 |
| 28 | 70 | 76.9 | 148 | 1 | MCPI_MOUSE | MONOCYTE CHEMOTACTIC P | 3.51e-03 |
| 29 | 69 | 75.8 | 74 | 1 | MCPB_BOVIN | EMBRYO FIBROBLAST PROT | 3.51e-03 |
| 30 | 69 | 75.8 | 103 | 1 | EMFI_CHICK | C10 PROTEIN PRECURSOR | 3.51e-03 |
| 31 | 69 | 75.8 | 116 | 1 | C10_MOUSE | MONOCYTE CHEMOTACTIC P | 3.51e-03 |
| 32 | 69 | 75.8 | 125 | 1 | MCPI_RABIT | EOTAXIN PRECURSOR (EOS | 5.79e-03 |
| 33 | 68 | 74.7 | 97 | 1 | EOTA_MOUSE | EOTAXIN PRECURSOR (EOS | 5.79e-03 |
| 34 | 68 | 74.7 | 97 | 1 | EOTA_RAT | EOTAXIN PRECURSOR (EOS | 5.79e-03 |
| 35 | 68 | 74.7 | 99 | 1 | MCPA_BOVIN | MONOCYTE CHEMOTACTIC P | 5.79e-03 |
| 36 | 68 | 74.7 | 104 | 1 | MCP5_MOUSE | MONOCYTE CHEMOTACTIC P | 9.49e-03 |
| 37 | 67 | 73.6 | 101 | 1 | IL8_BOVIN | INTERLEUKIN-8 PRECURSOR | 1.55e-02 |
| 38 | 66 | 72.5 | 97 | 1 | EOTA_HUMAN | EOTAXIN PRECURSOR (EOS | 1.55e-02 |
| 39 | 66 | 72.5 | 99 | 1 | IL8_HUMAN | INTERLEUKIN-8 PRECURSOR | 1.55e-02 |
| 40 | 66 | 72.5 | 101 | 1 | IL8_CERTO | INTERLEUKIN-8 PRECURSOR | 1.55e-02 |
| 41 | 66 | 72.5 | 101 | 1 | IL8_MACMU | INTERLEUKIN-8 PRECURSOR | 1.55e-02 |
| 42 | 66 | 72.5 | 122 | 1 | MI1G_MOUSE | MACROPHAGE INFLAMMATOR | 1.55e-02 |
| 43 | 65 | 71.4 | 50 | 1 | SISD_PIG | T-CELL SPECIFIC RANTES | 2.52e-02 |
| 44 | 65 | 71.4 | 91 | 1 | SISD_CAVPO | T-CELL SPECIFIC RANTES | 2.52e-02 |
| 45 | 65 | 71.4 | 96 | 1 | EOTA_CAVPO | EOTAXIN PRECURSOR (EOS | 2.52e-02 |

TISSUE-T-CELL;
 RX MEDLINE; 89325421.
 RA CHANG H.C., REINHERZ E.L.;
 RT "Isolation and characterization of a cDNA encoding a putative
 cytokine which is induced by stimulation via the CD2 structure on
 human T lymphocytes.";
 RL EUR. J. IMMUNOL. 19:1045-1051(1989).
 RN [6]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 91373378.
 RA NEOLITANO M., MODI W.S., CEVARIO S.J., GNARRA J.R., SEVANEZ H.N.,
 RA LEONARD W.J.;
 RT "The gene encoding the Act-2 cytokine. Genomic structure, HTLV-I/Tax
 responsiveness of 5' upstream sequences, and chromosomal
 localization.";
 RL J. BIOL. CHEM. 266:17531-17536(1991).
 RN [7]
 RP SEQUENCE OF 6-92 FROM N.A.
 RX MEDLINE; 90038522.
 RA MILLER M.D., HATA S., WAAL MALEYTT R., KRANGEL M.S.;
 RT "A novel polypeptide secreted by activated human T lymphocytes.";
 RL J. IMMUNOL. 143:2907-2916(1989).
 RN [8]
 RP STRUCTURE BY NMR.
 RX MEDLINE; 94182137.
 RA LODI P.J., GARRETT D.S., KUSCEWSKI J., TSANG M.L.S., WEATHERBEE J.A.,
 RA LEONARD W.J., GROENENBORN A.M., CLORE G.M.;
 RT "High-resolution solution structure of the beta chemokine hMIP-1 beta
 by multidimensional NMR.";
 RL SCIENCE 263:1762-1767(1994).
 CC -!- FUNCTION: MONOKINE WITH INFLAMMATORY AND CHEMOKINETIC PROPERTIES.
 CC -!- SUBUNIT: HOMODIMER.
 CC -!- INDUCTION: BY MITOGENS.
 CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
 C-C) (CHEMOKINE CC).
 CC -----
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 DR EMBL; M23502; G533213; -.
 DR EMBL; M25316; G602455; -.
 DR EMBL; J04130; G178018; -.
 DR EMBL; X53683; G34218; -.
 DR EMBL; X53682; E35870; ALT_SEQ.
 DR EMBL; X16166; G32036; -.
 DR EMBL; M69203; G1332376; -.
 DR EMBL; M69201; G1332376; JOINED.
 DR EMBL; M69202; G1332376; JOINED.
 DR EMBL; M57503; G339727; -.
 DR PIR; A31767; A31767; -.
 DR PIR; A30574; B30574; -.
 DR PIR; D30552; D30552; -.
 DR PIR; JH0319; JH0319; -.
 DR PIR; A37411; A37411; -.
 DR PDB; 1HUN; 30-APR-94.
 DR PDB; 1HUN; 30-APR-94.
 DR MIN; 182284; -.
 DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
 DR PFAM; PF00048; i18; 1.
 KW CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL; 3D-STRUCTURE.
 FT SIGNAL 1 23
 FT CHAIN 24 92 MACROPHAGE INFLAMMATORY PROTEIN 1-BETA.
 FT DISULFID 34 58 BY SIMILARITY.
 FT DISULFID 35 74 BY SIMILARITY.
 FT CONFLICT 16 6 T -> C (IN REF. 7).
 FT CONFLICT 15 15 A -> S (IN REF. 6).
 FT CONFLICT 20 20 P -> L (IN REF. 2).
 FT CONFLICT 40 45 ARKLPR -> REASS (IN REF. 3).

FT CONFLICT 56 56 S -> I (IN REF. 7).
 FT CONFLICT 70 80 S -> G (IN REF. 6).
 FT STRAND 29 29 S -> T (IN REF. 7).
 FT STRAND 33 33
 FT HELIX 45 47
 FT STRAND 50 53
 FT STRAND 63 66
 FT STRAND 72 75
 FT TURN 77 78
 FT HELIX 80 90
 SQ SEQUENCE 92 AA; 10212 MW; F18E7AFD CRC32;
 Query Match 100.0%; Score 91; DB 1; Length 92;
 Best Local Similarity 100.0%; Pred. No. 2.87e-08;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Db 72 QVCADPSESQVQ 83
 QY 1 QVCADPSESQVQ 12
 |||||
 RESULT 2
 ID M1LB-RABIT STANDARD; PRT; 92 AA.
 AC P46632;
 DT 01-NOV-1995 (REL. 32, CREATED)
 DT 01-NOV-1995 (REL. 32, LAST SEQUENCE UPDATE)
 DT 01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)
 DE MACROPHAGE INFLAMMATORY PROTEIN 1-BETA PRECURSOR (MIP-1-BETA) (IMMUNE
 ACTIVATION PROTEIN 2) (ACT-2).
 GN SCYAA.
 OS ORYCTOLAGUS CUNICULUS (RABBIT).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC LAGOMORPHA; LEPORIDAE; ORYCTOLAGUS.
 RN [1]
 RC SEQUENCE FROM N.A.
 RC STRAIN-NEW ZEALAND WHITE;
 RX MEDLINE; 94198229.
 RA MORI S., GOTO K., GOTO F., MUTAKAMI K., OHKAWARA S., YOSHINAGA M.;
 RT "Dynamic changes in mRNA expression of neutrophils during the course
 of acute inflammation in rabbits.";
 RL INT. IMMUNOL. 6:149-156(1994).
 CC -!- FUNCTION: MONOKINE WITH INFLAMMATORY AND CHEMOKINETIC PROPERTIES
 (BY SIMILARITY).
 CC -!- SUBUNIT: HOMODIMER (BY SIMILARITY).
 CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
 C-C) (CHEMOKINE CC).
 CC -----
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 CC -----
 DR EMBL; D17402; G599578; -.
 DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
 DR PFAM; PF00048; i18; 1.
 DR HSSP; P13236; LHUN.
 KW CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.
 FT SIGNAL 1 23
 FT CHAIN 24 92 MACROPHAGE INFLAMMATORY PROTEIN 1-BETA.
 FT DISULFID 34 58 BY SIMILARITY.
 FT DISULFID 35 74 BY SIMILARITY.
 SQ SEQUENCE 92 AA; 10066 MW; A629AB2D CRC32;
 Query Match 96.7%; Score 88; DB 1; Length 92;
 Best Local Similarity 91.7%; Pred. No. 1.53e-07;
 Matches 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
 Db 72 QVCADPSESQVQ 83
 |||||

DR HSP: P13236; 1HUN.
KW CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.
FT SIGNAL 1 22 POTENTIAL.
FT CHAIN 23 92 MACROPHAGE INFLAMMATORY PROTEIN 1-ALPHA.
FT DISULFID 33 57 BY SIMILARITY.
FT DISULFID 34 73 BY SIMILARITY.
SQ SEQUENCE 92 AA; 10085 MW; C24DD919 CRC32;
Query Match 94.5%; Score 86; DB 1; Length 92;
Best Local Similarity 91.7%; Pred. No. 4.59e-07;
Matches 11; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
Db 71 QVCADPSESQVQ 82
QY 1 QVCADPSESQVQ 12
RESULT 4
ID MI10_HUMAN STANDARD; PRT; 93 AA.
AC P16619;
DT 01-AUG-1990 (REL. 15, CREATED)
DT 01-AUG-1990 (REL. 15, LAST SEQUENCE UPDATE)
DT 01-NOV-1997 (REL. 35, LAST ANNOTATION UPDATE)
DE TONSILLAR LYMPHOCYTE LD78 BETA PROTEIN PRECURSOR (GOS19-2 PROTEIN)
DE (PAT 464.2).
GN SCYA3L1 OR 464.2.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC PRIMATES; CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE; 90287702.
RA IRVING S.G., ZIPFEL P.F., BALKES J., MORTON C.C.,
RA BURD P.R., SIEBENLIST U., KELLY K.;
RT "Two inflammatory mediator cytokine genes are closely linked and
RT variably amplified on chromosome 11q";
RL NUCLEIC ACIDS RES. 18:3261-3270(1990).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE; 91103879.
RA BLUM S., FORSDYKE R.E., FORSDYKE D.R.;
RT "Three human homologs of a murine gene encoding an inhibitor of stem
RT cell proliferation";
RL DNA CELL BIOL. 9:589-602(1990).
RN [3]
RP SEQUENCE FROM N.A.
RX MEDLINE; 90287155.
RA NAKAO M., NOMIYAMA H., SHIMADA K.;
RT "Structures of human genes coding for cytokine LD78 and their
RT expression";
RL MOL. CELL. BIOL. 10:3646-3658(1990).
CC -!- SIMILARITY: 464.1 AND 464.2 ARE VERY CLOSELY RELATED.
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
CC C-C) (CHEMOKINE CC).
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CC or send an email to license@isb-sib.ch).
CC -----
CC EMBL; X52149; G296666; -
CC EMBL; M24110; G182849; -
CC EMBL; D90145; G219908; -
CC PIR; B30908; B30908.
CC PIR; B30412; B30412.
CC PIR; B35673; B35673.
CC PIR; S10157; S10157.
CC MIM; 601395; -
CC PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
DR

QY 1 QVCADPSESQVQ 12
RESULT 3
ID MI10_HUMAN STANDARD; PRT; 92 AA.
AC P10147;
DT 01-MAR-1989 (REL. 10, CREATED)
DT 01-MAR-1989 (REL. 10, LAST SEQUENCE UPDATE)
DT 01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)
DE MACROPHAGE INFLAMMATORY PROTEIN 1-ALPHA PRECURSOR (MIP-1-ALPHA)
DE (TONSILLAR LYMPHOCYTE LD78 ALPHA PROTEIN) (GOS19-1 PROTEIN) (SIS-BETA)
DE (PAT 464.1) (SMALL INDUCIBLE CYTOKINE A3).
GN SCYA3 OR MIPIA.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC PRIMATES; CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE; 86223879.
RA OBARU K., FUKUDA M., MAEDA S., SHIMADA K.;
RT "A cDNA clone used to study mRNA inducible in human tonsillar
RT lymphocytes by a tumor promoter";
RL J. BIOCHEM. 95:885-894(1986).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE; 89140347.
RA ZIPFEL P.F., BALKES J., IRVING S.G., KELLY K., SIEBENLIST U.;
RT "Mitogenic activation of human T cells induces two closely related
RT genes which share structural similarities with a new family of
RT secreted factors";
RL J. IMMUNOL. 142:1582-1590(1989).
RN [3]
RP SEQUENCE FROM N.A.
RX MEDLINE; 91103879.
RA BLUM S., FORSDYKE R.E., FORSDYKE D.R.;
RT "Three human homologs of a murine gene encoding an inhibitor of stem
RT cell proliferation";
RL DNA CELL BIOL. 9:589-602(1990).
RN [4]
RP SEQUENCE FROM N.A.
RX MEDLINE; 90287155.
RA NAKAO M., NOMIYAMA H., SHIMADA K.;
RT "Structures of human genes coding for cytokine LD78 and their
RT expression";
RL MOL. CELL. BIOL. 10:3646-3658(1990).
CC -!- FUNCTION: MONOKINE WITH INFLAMMATORY AND CHEMOKINETIC PROPERTIES.
CC -!- INDUCTION: BY TPA OR PHA (TPA = 12-O-TETRADECANOYL PHORBOL-13
CC ACETATE (TUMOR PROMOTER); PHA = PHYTOHEMAGGLUTININ (T-CELL
CC MITOGEN)).
CC -!- SIMILARITY: LD78-ALPHA AND -BETA ARE VERY CLOSELY RELATED.
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
CC C-C) (CHEMOKINE CC).
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CC -----
CC EMBL; D00044; D1000469; -
CC EMBL; M23452; G188559; -
CC EMBL; M25315; G602453; -
CC EMBL; X03754; G758089; -
CC EMBL; X04018; G34297; ALT_SEQ.
CC EMBL; M23178; G182847; -
CC EMBL; D90144; G219906; -
CC PIR; A24198; A24198.
CC PIR; A30574; A30574.
CC MIM; 182283; -
CC PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
CC PFAM; PF00048; 118; 1.
DR

DR PFAM: PF00048; 118; 1.
DR HSP: P13236; 1HUN.
KW CYTOKINE; CHEMOTAXIS; SIGNAL.
FT SIGNAL 1 23
FT CHAIN 24 93 LD78 BETA / GOS19-2 / 464.2.
FT DISULFID 34 58 BY SIMILARITY.
FT FT 35 74 BY SIMILARITY.
SQ SEQUENCE 93 AA; 10161 MW; 21EDDB04 CRC32;

Query Match 94.5%; Score 86; DB 1; Length 93;
Best Local Similarity 91.7%; Pred. No. 4.59e-07;
Matches 11; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Db 72 QVCADPSEWQ 83
QY 1 QVCADPSEWQ 12

RESULT 5
ID M11A_RAT STANDARD; PRT; 92 AA.
AC P50229;
DT 01-OCT-1996 (REL. 34, CREATED)
DT 01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)
DT 01-NOV-1997 (REL. 35, LAST ANNOTATION UPDATE)
DE MACROPHAGE INFLAMMATORY PROTEIN 1-ALPHA PRECURSOR (MIP-1-ALPHA).
GN SCYA3 OR MIP1A.
OS RATTUS NORVEGICUS (RAT).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; RATTUS.
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN-CD-1; TISSUE=LUNG;
RX MEDLINE: 95298037.
RA SHI M.M., GODLESKI J.J., PAULASKIS J.D.;
RT "Molecular cloning and posttranscriptional regulation of macrophage
inflammatory protein-1 alpha in alveolar macrophages.";
RL BIOCHEM. BIOPHYS. RES. COMMUN. 211:289-295(1995).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=LONG EVANS; TISSUE=LUNG;
RX MEDLINE: 95238980.
RA SHANLEY T.P., SCHMAL H., FRIEDL H.P., JONES M.L., WARD P.A.;
RT "Role of macrophage inflammatory protein-1 alpha (MIP-1 alpha) in
acute lung injury in rats.";
RL J. IMMUNOL. 154:4793-4802(1995).
RN [3]
RP SEQUENCE OF 24-57.
RC STRAIN=WISTAR;
RX MEDLINE: 96183056.
RA NAKAGAWA H., SHIOTA S., TAKANO K., SHIBATA F., KATO H.;
RT "Cytokine-induced neutrophil chemoattractant (CINC)-2 alpha, a novel
member of rat GRO/CINC, is a predominant chemokine produced by
lipopolysaccharide-stimulated rat macrophages in culture.";
RL BIOCHEM. BIOPHYS. RES. COMMUN. 220:945-948(1996).
CC -1- FUNCTION: MONOKINE WITH INFLAMMATORY AND CHEMOKINETIC PROPERTIES.
CC HAS CHEMOTACTIC ACTIVITY FOR MONOCYTES, NEUTROPHILS, EOSINOPHILS,
CC BASOPHILS, AND LYMPHOCYTES. REQUIRED FOR LUNG TNF-ALPHA
CC PRODUCTION, NEUTROPHIL RECRUITMENT AND SUBSEQUENT LUNG INJURY AND
CC MAY FUNCTION AS AN AUTOCRINE MEDIATOR FOR THE MACROPHAGE
CC PRODUCTION OF TNF-ALPHA WHICH IN TURN UP-REGULATES VASCULAR
CC ADHESION MOLECULES REQUIRED FOR NEUTROPHIL INFILTRATION. THIS PROTEIN
CC BINDS HEPARIN.
CC -1- INDUCTION: BY LIPOPOLYSACCHARIDE (LPS).
CC -1- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
CC C-C) (CHEMOKINE CC).

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CC EMBL: U22414; G790633; -.
DR EMBL: U06435; G459150; -.
DR PROSITE: PS00472; SMALL_CYTOKINES_CC; 1.
DR PFAM: PF00048; 118; 1.
DR HSP: P13236; 1HUN.
KW CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL; HEPARIN-BINDING.
FT SIGNAL 1 23
FT CHAIN 24 92 MACROPHAGE INFLAMMATORY PROTEIN 1-ALPHA.
FT DISULFID 34 57 BY SIMILARITY.
FT DISULFID 35 73 BY SIMILARITY.
FT CONFLICT 6 6 A -> T (IN REF. 2).
FT CONFLICT 57 57 A -> W (IN REF. 2 AND 3).
SQ SEQUENCE 92 AA; 10335 MW; F48CF89F CRC32;

Query Match 90.1%; Score 82; DB 1; Length 92;
Best Local Similarity 75.0%; Pred. No. 4.04e-06;
Matches 9; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 71 QICADPKETWQ 82
QY 1 QVCADPSEWQ 12

RESULT 6
ID M11B_RAT STANDARD; PRT; 92 AA.
AC P50230;
DT 01-OCT-1996 (REL. 34, CREATED)
DT 01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)
DT 01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)
DE MACROPHAGE INFLAMMATORY PROTEIN 1-BETA PRECURSOR (MIP-1-BETA).
GN SCYA4 OR MIP1B.
OS RATTUS NORVEGICUS (RAT).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; RATTUS.
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=LONG EVANS; TISSUE=LUNG;
RA JONES M.L., SHANLEY T.P., SCHMAL H., FRIEDL H.P., WARD P.A.;
RL SUBMITTED (FEB-1994) TO EMBL/GENBANK/DDSI DATA BANKS.
CC -1- FUNCTION: MONOKINE WITH INFLAMMATORY AND CHEMOKINETIC PROPERTIES.
CC -1- SUBUNIT: HOMODIMER (BY SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
CC C-C) (CHEMOKINE CC).

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DR EMBL: U06434; G459148; -.
DR PROSITE: PS00472; SMALL_CYTOKINES_CC; 1.
DR PFAM: PF00048; 118; 1.
DR HSP: P13236; 1HUN.
KW CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.
FT SIGNAL 1 23 BY SIMILARITY.
FT CHAIN 24 92 MACROPHAGE INFLAMMATORY PROTEIN 1-BETA.
FT DISULFID 34 58 BY SIMILARITY.
FT DISULFID 35 74 BY SIMILARITY.
SQ SEQUENCE 92 AA; 10234 MW; 3C82B006 CRC32;

Query Match 86.8%; Score 79; DB 1; Length 92;
Best Local Similarity 81.8%; Pred. No. 2.01e-05;
Matches 9; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Db 72 QICADPSEWQ 82
QY 1 QVCADPSEWQ 11

RA WOLPE S.D., MASIAZ F., COIT D., CERAMI A.;
RT "resolution of the two components of macrophage inflammatory protein
RL 1, and cloning and characterization of one of those components,
J. EXP. MED. 168:2251-2259(1988).
RN [2]
RX SEQUENCE FROM N.A.
RY MEDLINE: 89093958.
RA BRON K.D., ZURAWSKI S.M., MOSMANN T.R., ZURAWSKI G.;
RT "A family of small inducible proteins secreted by leukocytes are
RT members of a new superfamily that includes leukocyte and
RT fibroblast-derived inflammatory agents, growth factors, and
RT indicators of various activation processes";
J. IMMUNOL. 142:679-687(1989).
RN [3]
RX SEQUENCE FROM N.A.
RY STRAIN-DBA/2J; TISSUE=LIVER;
RA DAUBERSIES P., LEPRETRE F., BAILLEUL B., GROVE M., PRAGNELL I.,
PLUMB M.A.;
RA SUBMITTED (OCT-1991) TO EMBL/GENBANK/DBJ DATA BANKS.
CC -1- FUNCTION: MONOKINE WITH INFLAMMATORY AND CHEMOKINETIC PROPERTIES.
CC -1- SUBUNIT: HOMODIMER (BY SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
C-C) (CHEMOKINE CC).
CC
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CC
CC EMBL; M23503; G533245; -
CC EMBL; M35590; G199697; -
CC EMBL; X62502; G53127; -
CC PIR; C30552; C30552.
CC PIR; J00888; J00888.
CC MGD; MGI:98261; SCY44.
CC PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
CC PFAM; PF00048; i18; 1.
CC HSP; P13236; 1HUN.
CC CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.
CC
CC SIGNAL 1 23
CC CHAIN 24 92 MACROPHAGE INFLAMMATORY PROTEIN 1-BETA.
CC FT DISULFID 34 58 BY SIMILARITY.
CC FT DISULFID 35 74 BY SIMILARITY.
CC FT DISULFID 75 75 A -> P (IN REF. 1).
CC FT CONFLICT 79 79 E -> Q (IN REF. 1).
CC FT CONFLICT 88 88 D -> H (IN REF. 1).
CC FT CONFLICT 88 88 D -> H (IN REF. 1).
CC SQ SEQUENCE 92 AA; 10168 MW; C543B91F CRC32;
Query Match 83.5%; Score 76; DB 1; Length 92;
Best Local Similarity 72.7%; Pred. No. 9.78e-05;
Matches 8; Conservative 3; Mismatches 0; Indels 0; Gaps 0;
Db 72 QICADPSEWV 82
QY 1 QVADPSESVM 11
RESULT 9
ID M11A_MOUSE STANDARD; PRT; 92 AA.
AC P10855; P14096;
DT 01-JUL-1989 (REL. 11, CREATED)
DT 01-APR-1990 (REL. 14, LAST SEQUENCE UPDATE)
DT 15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)
DE MACROPHAGE INFLAMMATORY PROTEIN 1-ALPHA PRECURSOR (MIP-1-ALPHA) (TY-5)
DE (SIS-ALPHA) (HEPARIN-BINDING CHEMOTAXIS PROTEIN) (L2G25B).
GN SCY43 OR MIP1A.
OS MUS MUSCULUS (MOUSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; MUS.

RA WOLPE S.D., MASIAZ F., COIT D., CERAMI A.;
RT "resolution of the two components of macrophage inflammatory protein
RL 1, and cloning and characterization of one of those components,
J. EXP. MED. 168:2251-2259(1988).
RN [2]
RX SEQUENCE FROM N.A.
RY MEDLINE: 89093958.
RA BRON K.D., ZURAWSKI S.M., MOSMANN T.R., ZURAWSKI G.;
RT "A family of small inducible proteins secreted by leukocytes are
RT members of a new superfamily that includes leukocyte and
RT fibroblast-derived inflammatory agents, growth factors, and
RT indicators of various activation processes";
J. IMMUNOL. 142:679-687(1989).
RN [3]
RX SEQUENCE FROM N.A.
RY STRAIN-DBA/2J; TISSUE=LIVER;
RA DAUBERSIES P., LEPRETRE F., BAILLEUL B., GROVE M., PRAGNELL I.,
PLUMB M.A.;
RA SUBMITTED (OCT-1991) TO EMBL/GENBANK/DBJ DATA BANKS.
CC -1- FUNCTION: MONOKINE WITH INFLAMMATORY AND CHEMOKINETIC PROPERTIES.
CC -1- SUBUNIT: HOMODIMER (BY SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
C-C) (CHEMOKINE CC).
CC
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CC
CC EMBL; M23503; G533245; -
CC EMBL; M35590; G199697; -
CC EMBL; X62502; G53127; -
CC PIR; C30552; C30552.
CC PIR; J00888; J00888.
CC MGD; MGI:98261; SCY44.
CC PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
CC PFAM; PF00048; i18; 1.
CC HSP; P13236; 1HUN.
CC CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.
CC
CC SIGNAL 1 23
CC CHAIN 24 92 MACROPHAGE INFLAMMATORY PROTEIN 1-BETA.
CC FT DISULFID 34 58 BY SIMILARITY.
CC FT DISULFID 35 74 BY SIMILARITY.
CC FT DISULFID 75 75 A -> P (IN REF. 1).
CC FT CONFLICT 79 79 E -> Q (IN REF. 1).
CC FT CONFLICT 88 88 D -> H (IN REF. 1).
CC FT CONFLICT 88 88 D -> H (IN REF. 1).
CC SQ SEQUENCE 92 AA; 10168 MW; C543B91F CRC32;
Query Match 84.6%; Score 77; DB 1; Length 120;
Best Local Similarity 66.7%; Pred. No. 5.79e-05;
Matches 8; Conservative 3; Mismatches 1; Indels 0; Gaps 0;
Db 71 EVCADPTOKWVQ 82
QY 1 QVADPSESVMQ 12
RESULT 8
ID M11B_MOUSE STANDARD; PRT; 92 AA.
AC P14097;
DT 01-JAN-1990 (REL. 13, CREATED)
DT 01-FEB-1996 (REL. 33, LAST SEQUENCE UPDATE)
DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
DE MACROPHAGE INFLAMMATORY PROTEIN 1-BETA PRECURSOR (MIP-1-BETA) (H400
DE PROTEIN) (SIS-GAMMA) (ACT2).
GN SCY44 OR MIP1B.
OS MUS MUSCULUS (MOUSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; MUS.
RN [1]
RX SEQUENCE FROM N.A.
RY MEDLINE: 89067830.
RA SHERRY B., TERAMP-OLSON P., GALLEGOS C., BAUER D., DAVATELIS G.,

RN RP SEQUENCE FROM N.A.
 RX MEDLINE: 88258380.
 RA DAVATELIS G., TERAMP-OLSON P., WOLPE S.D., HERMSEN K., LUEDKE C.,
 RA GALLEGOS C., COIT D., MERRYWEATHER J., CERAMI A.;
 RT "Cloning and characterization of a cDNA for murine macrophage
 RT inflammatory protein (MIP), a novel monokine with inflammatory and
 RT chemokinetic properties.";
 RL J. EXP. MED. 167:1939-1944(1988).
 RN [2]
 RP REVISTONS.
 RA DAVATELIS G., TERAMP-OLSON P., WOLPE S.D., HERMSEN K., LUEDKE C.,
 RA GALLEGOS C., COIT D., MERRYWEATHER J., CERAMI A.;
 RL J. EXP. MED. 170:2189-2189(1989).
 RN [3]
 RP SEQUENCE FROM N.A.
 RX MEDLINE: 89093958.
 RA BROWN K.D., ZURAWSKI S.M., MOSMANN T.R., ZURAWSKI G.;
 RT "A family of small inducible proteins secreted by leukocytes are
 RT members of a new superfamily that includes leukocyte and
 RT fibroblast-derived inflammatory agents, growth factors, and
 RT indicators of various activation processes.";
 RL J. IMMUNOL. 142:679-687(1989).
 RN [4]
 RP SEQUENCE FROM N.A.
 RX STRAIN-DBA/2J;
 RX MEDLINE: 91016858.
 RA GROVE M., LOWE S., GRAHAM G., PRAGNELL I., PLUMB M.;
 RT "Sequence of the murine haemopoietic stem cell inhibitor/macrophage
 RT inflammatory protein 1 alpha gene.";
 RL NUCLEIC ACIDS RES. 18:5561-5561(1990).
 RN [5]
 RP SEQUENCE FROM N.A.
 RX MEDLINE: 89184547.
 RA KWON B.S., WEISSMAN S.M.;
 RT "cDNA sequences of two inducible T-cell genes.";
 RL PROC. NATL. ACAD. SCI. U.S.A. 86:1963-1967(1989).
 RN [6]
 RP SEQUENCE FROM N.A.
 RX MEDLINE: 91237116.
 RA WIDMER U., YANG Z., VAN DEVENTER S., MANOGUE K.R., SHERRY B.,
 RA CERAMI A.;
 RT "Genomic structure of murine macrophage inflammatory protein-1 alpha
 RT and conservation of potential regulatory sequences with a human
 RT homolog, LD78.";
 RL J. IMMUNOL. 146:4031-4040(1991).
 RN [7]
 RP SEQUENCE FROM N.A.
 RX STRAIN-BALE/CJ, DBA/2J, NOD/LTJ, SJL/J, AND B10.S/J; TISSUE=SPLEEN;
 RA MA R.Z., TEUSCHER C.;
 RL SUBMITTED (MAY-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [8]
 RP SEQUENCE OF 24-42.
 RX MEDLINE: 88154745.
 RA WOLPE S.D., DAVATELIS G., SHERRY B., BEUTLER B., HESSE D.G.,
 RA NGUYEN H.T., MOLDAWER L.L., NATHAN C.F., LOWRY S.F., CERAMI A.;
 RT "Macrophages secrete a novel heparin-binding protein with
 RT inflammatory and neutrophil chemokinetic properties.";
 RL J. EXP. MED. 167:570-581(1988).
 RN [9]
 RP FUNCTION: MONOKINE WITH INFLAMMATORY, PYROGENIC AND CHEMOKINETIC
 CC PROPERTIES. HAS A POTENT CHEMOTACTIC ACTIVITY FOR EOSINOPHILS. IN
 CC BINDING TO A HIGH-AFFINITY RECEPTOR ACTIVATES CALCIUM RELEASE IN
 CC NEUTROPHILS.
 CC [1]- TISSUE SPECIFICITY: EXPRESSED IN LUNG, SPLEEN, AND PANCREAS.
 CC [1]- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
 CC C-C) (CHEMOKINE CC).
 CC -----
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 CC -----
 DR EMBL: M23447; G533241; -
 DR EMBL: X12531; G53123; -
 DR EMBL: X53372; G297531; -
 DR EMBL: J04491; G201525; -
 DR EMBL: M73061; G199695; -
 DR EMBL: AF065939; G3158440; -
 DR EMBL: AF065940; G3158442; -
 DR EMBL: AF065941; G3158444; -
 DR EMBL: AF065942; G3158446; -
 DR EMBL: AF065943; G3158448; -
 DR PIR: A27596; A27596
 DR PIR: A30552; A30552.
 DR PIR: A32333; A32333.
 DR PIR: S04533; S04533.
 DR PIR: S11685; S11685.
 DR MGD; MGI:98260; SCYA3.
 DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
 DR PFAM; PF00048; i18; 1.
 DR HSSP; P13236; IHUN.
 KW CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.
 FT SIGNAL 1 23
 FT CHAIN 24 92
 FT DISULFID 34 57
 FT DISULFID 35 73
 FT CONFLICT 22 22
 FT CONFLICT 62 62
 SQ SEQUENCE 92 AA; 10345 MW; 53979E5E CRC32;
 Query Match 82.4%; Score 75; DB 1; Length 92;
 Best Local Similarity 66.7%; Pred. No. 1.65e-04;
 Matches 8; Conservative 3; Mismatches 1; Indels 0; Gaps 0;
 Db 71 QICADSKETWVQ 82
 QY 1 QVCADPSWVQ 12
 RESULT 10
 ID MCP4_HUMAN STANDARD; PRT; 98 AA.
 AC Q99616;
 DT 15-JUL-1998 (REL. 36, CREATED)
 DT 15-JUL-1998 (REL. 36, LAST SEQUENCE UPDATE)
 DT 15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)
 DE MONOCYTE CHEMOTACTIC PROTEIN 4 PRECURSOR (MCP-4) (MONOCYTE
 DE CHEMOATTRACTANT PROTEIN 4) (CK-BETA10) (NCC-1).
 GN SCYA13 OR MCP4 OR NCC1.
 OS HOMO SAPIENS (HUMAN).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC PRIMATES; CATARRHINI; HOMINIDAE; HOMO.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=HEART;
 RX MEDLINE: 97113354.
 RA GARCIA-ZEPEDA E.A., COMBADIERE C., ROTHENBERG M.E., SARAFI M.N.,
 RA LAVIGNE F., HAMID Q., MURPHY P.M., LUSTER A.D.;
 RT "Human monocyte chemoattractant protein (MCP)-4 is a novel CC
 RT chemokine with activities on monocytes, eosinophils, and basophils
 RT induced in allergic and nonallergic inflammation that signals through
 RT the CC chemokine receptors (CCR) 2 and -3.";
 RL J. IMMUNOL. 157:5613-5626(1996).
 RN [2]
 RP SEQUENCE FROM N.A., AND SEQUENCE OF 17-98.
 RC TISSUE=FETAL;
 RX MEDLINE: 96235049.
 RA GUGUCCIONI M., LOETSCHER P., FORSSMANN U., DEWALD B., LI H., LIMA S.H.,
 RA LI Y., KREIDER B., GAROTTA G., THELEN M., BAGGIOLINI M.;
 RT "Monocyte chemotactic protein 4 (MCP-4), a novel structural and
 RT functional analogue of MCP-3 and eotaxin.";
 RL J. EXP. MED. 183:2379-2384(1996).
 RN [3]
 RP SEQUENCE FROM N.A., AND SEQUENCE OF 22-33.

RC RX TISSUE-FETAL;
RC MEDLINE: 97341179.
RA BERKHOUT T.A., SARAU H.M., MOORES K., WHITE J.R., ELSHOUBAGY N.,
RA APPELBAUM E., REAPE T.J., BRAUNER M., MAKWANA J., FOLEY J.J.,
RA SCHMIDT D.B., IMBURCIA C., MAGNUTY D., MATTHEWS J., O'DONNELL K.,
RA O'SHANNESSEY D., SCOTT M., GROOT P.H.E., MACPHEE C.,
RT "Cloning, in vitro expression, and functional characterization of a
RT novel human CC chemokine of the monocyte chemoattractant protein (MCP)
RT family (MCP-4) that binds and signals through the CC chemokine
RT receptor 2b.";
RL J. BIOL. CHEM. 272:16404-16413(1997).
RN [4]
RN SEQUENCE FROM N.A.
RP DANTE M., GIBSON A.;
RP SUBMITTED (AUG-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [5]
RN SEQUENCE FROM N.A.
RP TISSUE-LUNG;
RC POWER C.A., MEYER A., RISON S.C.G., GUYE-COULIN F., WELLS T.N.C.;
RL SUBMITTED (DEC-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
CC -!- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES, LYMPHOCYTES,
CC BASOPHILS AND EOSINOPHILS, BUT NOT NEUTROPHILS. SIGNALS THROUGH
CC CCR2B AND CCR3 RECEPTORS. PLAYS A ROLE IN THE ACCUMULATION OF
CC LEUKOCYTES AT BOTH SIDES OF ALLERGIC AND NONALLERGIC INFLAMMATION.
CC MAY BE INVOLVED IN THE RECRUITMENT OF MONOCYTES INTO THE ARTERIAL
CC WALL DURING THE DISEASE PROCESS OF ARTEROSCLEROSIS. MAY PLAY A
CC ROLE IN THE MONOCYTE ATTRACTION IN TISSUES CHRONICALLY EXPOSED TO
CC EXOGENOUS PATHOGENS.
CC -!- MASS SPECTROMETRY: MW=9314; MW_ERR=30; METHOD-MALDI; RANGE=17-98.
CC -!- MASS SPECTROMETRY: MW=8760; MW_ERR=30; METHOD-MALDI; RANGE=22-98.
CC -!- MASS SPECTROMETRY: MW=8575; MW_ERR=30; METHOD-MALDI; RANGE=24-98.
CC -!- INDUCTION: BY INTERLEUKIN-1 AND TNF-ALPHA.
CC -!- TISSUE SPECIFICITY: WIDELY EXPRESSED. FOUND IN SMALL INTESTINE,
CC THYMUS, COLON, LUNG, TRACHEA, STOMACH AND LYMPH NODE. LOW LEVELS
CC SEEN IN THE PULMONARY ARTERY SMOOTH MUSCLE CELLS.
CC -!- THIS PROTEIN CAN BIND HEPARIN.
CC -!- THIS MAJOR ISOFORM MCP-4, AND TWO MINOR ISOFORMS (LA)MCP-4 AND
CC (FNQGLA)MCP-4 ARE PRODUCED BY DIFFERENTIAL SIGNAL CLEAVAGE.
CC (LA)MCP-4 IS ABOUT 30 FOLD LESS ACTIVE THAN MCP-4.
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
CC C-C) (CHEMOKINE CC).
CC -----
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CC -----
DR EMBL: U46767; G1732123; -;
DR EMBL: AC002482; G2340091; -;
DR EMBL: X98306; E248571; -;
DR MIM: 601391; -;
DR PROSITE: PS00472; SMALL_CYTOKINES_CC; 1.
DR PFAM: PF00048; i18; 1.
DR HSP: P13500; IDOL.
KW CYTOKINE; CHEMOTAXIS; SIGNAL; GLYCOPROTEIN; INFLAMMATORY RESPONSE.
FT SIGNAL 1 23
FT CHAIN 24 98
FT MOD_RES 24 24 MONOCYTE CHEMOTACTIC PROTEIN 4.
FT DISULFID 34 58 PYRROLIDONE CARBOXYLIC ACID.
FT DISULFID 35 74 BY SIMILARITY.
FT CARBOHYD 29 29 POTENTIAL.
SQ SEQUENCE 98 AA; 10986 MW; DF52F6BC CRC32;
Query Match 82.4%; Score 75; DB 1; Length 98;
Best Local Similarity 66.7%; Pred. No. 1.65e-04;
Matches 8; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
Db 72 EICADPKKQVQ 83
QY 1 QVCAADPSQSVQ 12

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DR EMBL; X72308; G313708; ALT_INIT.
 DR EMBL; X72309; -; NOT_ANNOTATED_CDS.
 DR EMBL; X71087; G288399;
 DR EMBL; X71087; G288398; ALT_INIT.
 DR EMBL; X71087; G288397; ALT_INIT.
 DR PIR; JC1478; JC1478.
 DR PIR; S32222; S32222.
 DR PIR; A54678; A54678.
 DR PDB; 1NCV; 15-OCT-97.
 DR MIM; 158106; -.
 DR PFAM; PS00472; SMALL_CYTOKINES_CC; 1.
 DR PFAM; PF00048; i18; 1.
 KW CYTOKINE; CHEMOTAXIS; HEPARIN-BINDING; GLYCOPROTEIN; SIGNAL;
 KW INFLAMMATORY RESPONSE; 3D-STRUCTURE.
 FT SIGNAL 1 23
 FT CHAIN 24 99
 FT MOD_RES 24 24
 FT DISULFID 34 59
 FT DISULFID 35 75
 FT CARBOHYD 29 29
 FT CONFLICT 30 30
 FT CONFLICT 68 70
 FT CONFLICT 99 AA; 11200 MW; 7502E19C CRC32;
 FT SEQUENCE 99 AA; 11200 MW; 7502E19C CRC32;

Query Match 82.4%; Score 75; DB 1; Length 99;
 Best Local Similarity 58.3%; Pred. No. 1.65e-04;
 Matches 7; Conservative 4; Mismatches 1; Indels 0; Gaps 0;
 Db 73 ETCDPTQKWQ 84
 QY 1 QVCADPSESQWQ 12

RESULT 12
 ID MIP4_HUMAN STANDARD; PRT; 89 AA.
 AC P55774;
 DT 01-NOV-1997 (REL. 35, CREATED)
 DT 01-NOV-1997 (REL. 35, LAST SEQUENCE UPDATE)
 DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
 DE MACROPHAGE INFLAMMATORY PROTEIN 4 PRECURSOR (MIP-4) (PULMONARY AND
 DE ACTIVATION-REGULATED CHEMOKINE) (CC CHEMOKINE PARC) (ALTERNATIVE
 DE ACTIVATED MACROPHAGE ASSOCIATED CC CHEMOKINE 1) (AMAC-1).
 GN SCYA18 OR MIP4.
 OS HOMO SAPIENS (HUMAN).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC PRIMATES; CATARRHINI; HOMINIDAE; HOMO.
 [1]
 RN SEQUENCE FROM N.A.
 RA LI H., RUBEN S.;
 RA "Macrophage inflammatory protein-3 and -4";
 RA PATENT NUMBER US5504003, 02-APR-1996.
 [2]
 RN SEQUENCE FROM N.A., AND PARTIAL SEQUENCE.
 RC TISSUE-AORTA, AND LUNG;
 RX MEDLINE; 97376836.
 RA HIESHIMA K., INAI T., BABA M., SHOUJAI K., ISHIZUKA K.,
 RA NAKAGAWA T., TSURUTA J., TAKEYA M., SAKAKI Y., TAKATSUKI K.,
 RA MIURA R., ODENAKKE G., VAN DAMME J., YOSHIE O., NOMIYAMA H.;
 RA "A novel human CC chemokine PARC that is most homologous to
 RA macrophage-inflammatory protein-1 alpha/LD78 alpha and chemotactic
 RA for T lymphocytes, but not for monocytes.";
 RA J. IMMUNOL. 159:1140-1149(1997).
 [3]
 RN SEQUENCE FROM N.A.
 RP KODELJA V., MUELLER C., POLITZ O., HAKIY N., ORFANOS C.E., GOERDT S.;
 RL SUBMITTED (AUG-1997) TO EMBL/GENBANK/DBJ DATA BANKS.

[4]
 RN DISCUSSION OF SEQUENCE.
 RP MEDLINE; 97275308.
 RA WELLS T.N.C., PEITSCH M.C.;
 RA "The chemokine information source: identification and
 RT characterization of novel chemokines using the WorldWideWeb and
 RT expressed sequence tag databases.";
 RL J. LEUKOC. BIOL. 61:545-550(1997).
 CC -!- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS LYMPHOCYTES BUT NOT
 CC MONOCYTES OR GRANULOCYTES. MAY BE INVOLVED IN B CELL MIGRATION
 CC INTO B CELL FOLLICLES IN LYMPH NODES.
 CC -!- TISSUE SPECIFICITY: EXPRESSED AT HIGH LEVELS IN THE LUNG. A LOWER
 CC LEVEL EXPRESSION IS SEEN IN LYMPHOID TISSUES SUCH AS LYMPH NODES,
 CC THYMUS AND APPENDIX.
 CC -!- INDUCTION: BY LIPOPOLYSACCHARIDE (LPS).
 CC -!- SIMILARITY: BELONGS TO THE INTERCINE BETA FAMILY (SMALL CYTOKINE
 CC C-C) (CHEMOKINE CC).
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DR EMBL; AB000221; D1022520; -.
 DR EMBL; X13710; E321838; -.
 DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
 DR PFAM; PF00048; i18; 1.
 DR HSSP; P13236; LHUN.
 KW CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.
 FT SIGNAL 1 20
 FT CHAIN 21 89
 FT DISULFID 30 54
 FT DISULFID 31 70
 FT SEQUENCE 89 AA; 9849 MW; 052AA3DC CRC32;
 Query Match 81.3%; Score 74; DB 1; Length 89;
 Best Local Similarity 66.7%; Pred. No. 2.76e-04;
 Matches 8; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Db 68 QICADPNKKWQ 79
 QY 1 QVCADPSESQWQ 12
 RESULT 13
 ID CCCL_HUMAN STANDARD; PRT; 93 AA.
 AC Q16627;
 DT 01-NOV-1997 (REL. 35, CREATED)
 DT 01-NOV-1997 (REL. 35, LAST SEQUENCE UPDATE)
 DT 01-NOV-1997 (REL. 35, LAST ANNOTATION UPDATE)
 DE CHEMOKINE CC-1 PRECURSOR (HCC-1) (NCC-2).
 GN SCYA14 OR NCC2.
 OS HOMO SAPIENS (HUMAN).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC PRIMATES; CATARRHINI; HOMINIDAE; HOMO.
 [1]
 RN SEQUENCE FROM N.A., AND SEQUENCE OF 20-93.
 RP TISSUE=BONE MARROW;
 RX MEDLINE; 96136773.
 RA SCHULZ-KNAPPE P., MAERGERT H.-J., DEWALD B., MEYER M., CETIN Y.,
 RA KOBLES M., TOMECKOWSKI J., KIRCHHOFF K., RAIDA M., ADERWANN K.,
 RA KIST A., REINECKE M., SILLARD R., PARDIGOL A., UGUCCIONI M.,
 RA BAGGIOLINI M., FORSMANN W.-G.;
 RA "HCC-1, a novel chemokine from human plasma.";
 RA J. EXP. MED. 183:295-299(1996).
 [2]
 RN SEQUENCE FROM N.A.
 RP TISSUE=LIVER;
 RA PARDIGOL A., MAERGERT H.-J., ZUCHT H.D., FORSMANN W.-G.,
 RA SCHULZ-KNAPPE P.;

Sat Feb 5 12:04:29 2000

US-09-150-813-43.rsp

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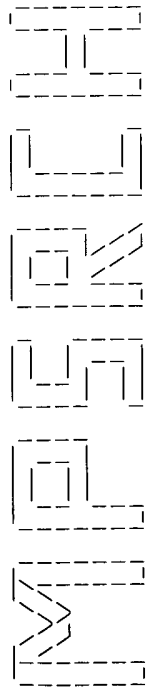
Matches 7; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

Db 90 VCTNPSDKWVQ 100

||:|:|

OY 2 VCADPSESXVQ 12

Search completed: Fri Feb 4 17:27:51 2000
Job time : 6 secs.



 (TM)

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MPSrch_pp protein - protein database search, using Smith-Waterman algorithm

Run on: Fri Feb 4 17:27:12 2000; MasPar time 3.58 Seconds
 Tabular output not generated. 134.363 Million cell updates/sec

Title: >US-09-150-813-43
 Description: (1-12) from US09150813.pep
 Perfect Score: 91
 Sequence: 1 QVCADPSESQVQ 12

Scoring table: PAM 150
 Gap 15

Searched: 122810 seqs, 40068593 residues

Post-processing: Minimum Match 0%
 Listing first 45 summaries

Database: pir60
 1:pir1 2:pir2 3:pir3 4:pir4

Statistics: Mean 24.455; Variance 36.695; scale 0.666

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match | Length | ID | Description | Pred. No. |
|------------|-------|-------------|--------|----|-----------------------|-----------|
| 1 | 91 | 100.0 | 50 | 2 | monocyte adherence-in | 4.73e-07 |
| 2 | 91 | 100.0 | 92 | 1 | macrophage inflammato | 4.73e-07 |
| 3 | 88 | 96.7 | 92 | 2 | immune activation gen | 2.11e-06 |
| 4 | 86 | 94.5 | 92 | 2 | macrophage inflammato | 5.68e-06 |
| 5 | 86 | 94.5 | 93 | 2 | LD78-beta protein pre | 5.68e-06 |
| 6 | 82 | 90.1 | 92 | 2 | macrophage inflammato | 4.01e-05 |
| 7 | 77 | 84.6 | 120 | 2 | monocyte chemoattract | 4.39e-04 |
| 8 | 76 | 83.5 | 92 | 2 | macrophage inflammato | 7.04e-04 |
| 9 | 75 | 82.4 | 92 | 2 | macrophage inflammato | 1.13e-03 |
| 10 | 75 | 82.4 | 109 | 2 | monocyte chemotactic | 1.13e-03 |
| 11 | 74 | 81.3 | 120 | 2 | lymphocyte and monocy | 1.80e-03 |
| 12 | 73 | 80.2 | 99 | 2 | monocyte chemoattract | 2.85e-03 |
| 13 | 72 | 79.1 | 99 | 2 | monocyte chemoattract | 4.53e-03 |
| 14 | 71 | 78.0 | 91 | 1 | monocyte chemoattract | 7.16e-03 |
| 15 | 71 | 78.0 | 99 | 2 | monocyte chemotactic | 7.16e-03 |
| 16 | 71 | 78.0 | 99 | 2 | monocyte chemoattract | 7.16e-03 |
| 17 | 70 | 76.9 | 95 | 2 | interleukin-8 - dog | 1.13e-02 |
| 18 | 70 | 76.9 | 101 | 2 | interleukin-8 - sheep | 1.13e-02 |
| 19 | 70 | 76.9 | 101 | 2 | interleukin-8 - sheep | 1.13e-02 |
| 20 | 70 | 76.9 | 103 | 2 | interleukin-8 precurs | 1.13e-02 |
| 21 | 70 | 76.9 | 103 | 2 | alveolar macrophage c | 1.13e-02 |
| 22 | 70 | 76.9 | 148 | 2 | PDGF-inducible JE gly | 1.13e-02 |
| 23 | 70 | 76.9 | 148 | 2 | immediate-early serum | 1.13e-02 |

24 69 75.8 103 2 A26736 transformation-induce 1.78e-02
 25 69 75.8 103 2 I50417 RSV-induced protein - 1.78e-02
 26 69 75.8 116 2 I49555 gene C10 protein - mo 1.78e-02
 27 69 75.8 125 2 I46857 monocyte chemoattract 2.79e-02
 28 68 74.7 99 2 A39296 monocyte chemoattract 2.79e-02
 29 68 74.7 99 2 JC2336 monocyte chemoattract 2.79e-02
 30 66 72.5 97 2 JC4912 eotaxin precursor - h 6.79e-02
 31 66 72.5 99 2 A37034 interleukin-8 precurs 6.79e-02
 32 65 71.4 91 1 A28815 monocyte chemoattract 1.05e-01
 33 65 71.4 96 2 JC2478 eotaxin precursor - r 1.05e-01
 34 65 71.4 96 2 I48099 eotaxin precursor - g 1.05e-01
 35 64 70.3 101 2 I46871 interleukin-8 - rabbi 1.63e-01
 36 64 70.3 114 1 ETHUL lymphotactin precurs 1.63e-01
 37 63 69.2 89 2 I53416 interleukin-8 homolo 2.52e-01
 38 63 69.2 89 2 A53497 pre-B-cell growth-sti 2.52e-01
 39 63 69.2 93 2 I81182 cytokine - mouse 2.52e-01
 40 63 69.2 93 2 G01540 cytokine SDF-1-beta - 2.52e-01
 41 61 67.0 101 2 I48148 Neutrophil attractant 5.93e-01
 42 59 64.8 114 1 ETMSL lymphotactin precurs 1.38e+00
 43 58 63.7 896 2 S57723 lrp protein - human 2.08e+00
 44 57 62.6 529 2 C70545 hypothetical protein 3.14e+00
 45 57 62.6 761 2 JC5759 brain-specific serine 3.14e+00

ALIGNMENTS

RESULT 1
 ENTRY #type fragment
 TITLE monocyte adherence-induced protein 5 beta - human (fragment)
 ORGANISM #formal_name Homo sapiens #common_name man
 DATE 06-Nov-1992 #sequence_revision 06-Nov-1992 #text_change 03-May-1996
 ACCESSION C60407
 REFERENCE A60407
 #authors Sporn, S.A.; Eierman, D.F.; Johnson, C.E.; Morris, J.; Martin, G.; Ladner, M.; Haskill, S.
 #journal J. Immunol. (1990) 144:4434-4441
 #title Monocyte adherence results in selective induction of novel genes sharing homology with mediators of inflammation and tissue repair.
 #cross-references MUID:90257367
 #accession C60407
 #status preliminary; not compared with conceptual translation
 #molecule_type mRNA
 #residues 1-50 #label SPO
 CLASSIFICATION #superfamily macrophage inflammatory protein
 SUMMARY #length 50 #checksum 9927

Query Match 100.0%; Score 91; DB 2; Length 50;
 Best Local Similarity 100.0%; Pred. No. 4.73e-07;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 30 QVCADPSESQVQ 41
 QY 1 QVCADPSESQVQ 12

RESULT 2
 ENTRY #type complete
 TITLE macrophage inflammatory protein 1-beta precursor - human
 ALTERNATE_NAMES cytokine HC21; G-26 protein; H400 homolog; lymphocyte activation gene 1 protein (LAG-1); MIP-beta; PAT744; SCYA2 protein (misidentification); SIS gamma homolog; T-cell activation protein 2 (Act-2); T-cell activation protein gamma
 ORGANISM #formal_name Homo sapiens #common_name man
 DATE 07-Jun-1990 #sequence_revision 29-May-1998 #text_change 29-May-1998
 ACCESSION JH0319; A40978; A31767; A37411; B30574; B45817; D30552
 REFERENCE JH0319
 #authors Baixeras, E.; Roman-Roman, S.; Jitsukawa, S.; Genevree, C.; Mechiche, S.; Viegas-Pequignot, E.; Hercend, T.; Triebel, F.

#journal Mol. Immunol. (1990) 27:1091-1102
#title Cloning and expression of a lymphocyte activation gene (LAG-1).
#cross-references MUID:91061800
#accession JH0319
##status translation not shown
##molecule_type DNA
##residues 1-92 ##label BAI
##cross-references GB:X53682; NID:g34217; PID:g34218
##experimental_source natural killer cell, strain CD3-CD2+, F5, 5IIE5
REFERENCE A40978
#authors Napolitano, M.; Modi, W.S.; Cevario, S.J.; Gnarr, J.R.; Seanez, H.N.; Leonard, W.J.
#journal J. Biol. Chem. (1991) 266:17531-17536
#title The gene encoding the Act-2 cytokine. Genomic structure, HTLV-1/tax responsiveness of 5' upstream sequences, and chromosomal localization.
#cross-references MUID:91373378
#accession A40978
##molecule_type DNA
##residues 1-14, 'S', 16-69, 'G', 71-92 ##label NBP
##cross-references GB:M69201; NID:g178021
##note 15-Ala was also found
REFERENCE A31767
#authors Lipes, M.A.; Napolitano, M.; Jeang, K.T.; Chang, N.T.; Leonard, W.J.
#journal Proc. Natl. Acad. Sci. U.S.A. (1988) 85:9704-9708
#title Identification, cloning, and characterization of an immune activation gene.
#cross-references MUID:89071764
#accession A31767
##molecule_type mRNA
##residues 1-92 ##label LIP
##cross-references GB:J04130; NID:g178017; PID:g178018
REFERENCE A37411
#authors Chang, H.C.; Reinherz, E.L.
#journal Eur. J. Immunol. (1989) 19:1045-1051
#title Isolation and characterization of a cDNA encoding a putative cytokine which is induced by stimulation via the CD2 structure on human T lymphocytes.
#cross-references MUID:89325421
#accession A37411
##molecule_type mRNA
##residues 1-92 ##label CHA
##cross-references GB:X16166; NID:g32035; PID:g32036
REFERENCE A30574
#authors Zipfel, P.F.; Balke, J.; Irving, S.G.; Kelly, K.; Siebenlist, U.
#journal J. Immunol. (1989) 142:1582-1590
#title Mitogenic activation of human T cells induces two closely related genes which share structural similarities with a new family of secreted factors.
#cross-references MUID:89140347
#accession B30574
##molecule_type mRNA
##residues 1-19, 'L', 21-92 ##label ZIP
##cross-references GB:M25316; NID:g602454; PID:g602455
REFERENCE A45817
#authors Miller, M.D.; Hata, S.; Malefyt, R.D.W.; Krangel, M.S.
#journal J. Immunol. (1989) 143:2907-2916
#title A novel polypeptide secreted by activated human T lymphocytes.
#cross-references MUID:90038522
#accession B45817
##molecule_type mRNA
##residues 7-55, 'I', 57-79, 'T', 81-92 ##label MIL
##cross-references GB:M57503; NID:g339726; PID:g339727
REFERENCE A30552
#authors Brown, K.D.; Zurawski, S.M.; Mosmann, T.R.; Zurawski, G.
#journal J. Immunol. (1989) 142:679-687
#title A family of small inducible proteins secreted by leukocytes are members of a new superfamily that includes leukocyte and fibroblast-derived inflammatory agents, growth factors,

and indicators of various activation processes.
#cross-references MUID:8903958
#accession D30552
##molecule_type mRNA
##residues 1-39, 'REASS', 46-92 ##label BRO
##cross-references GB:M23502; NID:g533212; PID:g533213
REFERENCE A52206
#authors Clore, G.M.; Lodi, P.J.; Garrett, D.S.; Gronenborn, A.M.
#submission submitted to the Brookhaven Protein Data Bank, January 1994
#cross-references PDB:1HUM
#contents annotation; conformation and disulfide bond assignments by (1)H-NMR, residues 24-92
COMMENT This protein is secreted by activated lymphocytes and monocytes. It is bound by chemokine (C-C) receptor 5 (see PIR:A43113) and receptor 1 (see PIR:A45177).

GENETICS
#gene GDB:LAG1
##cross-references GDB:127451; OMIM:153335
#map_position 17q21-17q21
#introns 26/1; 64/2
CLASSIFICATION #superfamily macrophage inflammatory protein
KEYWORDS chemotaxis; cytokine; inflammation
FEATURE 1-23
24-92
34-58, 35-74
SUMMARY #length 92 #molecular-weight 10212 #checksum 7597
#domain signal sequence #status predicted #label SIG
#product macrophage inflammatory protein 1-beta #status experimental #label MAT
#disulfide_bonds #status experimental

Query Match 100.0%; Score 91; DB 1; Length 92;
Best Local Similarity 100.0%; Pred. No. 4.73e-07;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 72 QVCADPSESQWQ 83
QY 1 QVCADPSESQWQ 12

RESULT 3
ENTRY 146730 #type complete
TITLE immune activation gene 2 - rabbit
ORGANISM #formal_name Oryctolagus cuniculus #common_name domestic rabbit
DATE 14-Feb-1997 #sequence_revision 14-Feb-1997 #text_change 09-May-1997
ACCESSIONS 146730
REFERENCE 146730
#authors Mori, S.; Goto, K.; Goto, F.; Mutakami, K.; Ohkawara, S.; Yoshinaga, M.
#journal Int. Immunol. (1994) 6:149-156
#title Dynamic changes in mRNA expression of neutrophils during the course of acute inflammation in rabbits.
#cross-references MUID:94198229
#accession 146730
#status preliminary; translated from GB/EMBL/DBJ
##molecule_type mRNA
##residues 1-92 ##label MOR
##cross-references GB:D17402; NID:g599577; PID:g599578
CLASSIFICATION #superfamily macrophage inflammatory protein
SUMMARY #length 92 #molecular-weight 10066 #checksum 5637

Query Match 96.7%; Score 88; DB 2; Length 92;
Best Local Similarity 91.7%; Pred. No. 2.11e-06;
Matches 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Db 72 QVCANPSESQWQ 83
QY 1 QVCADPSESQWQ 12

RESULT 4
ENTRY #type complete
TITLE macrophage inflammatory protein 1-alpha precursor - human

| ENTRY | B35673 | #type complete |
|-------|-----------------------------|----------------|
| TITLE | LP78-beta protein precursor | - human |

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#journal Biochem. Biophys. Res. Commun. (1995) 211:289-295
#title Molecular cloning and posttranscriptional regulation of
#organism macrophage inflammatory protein-1 alpha in alveolar
#cross-references MUID:95298037
#accession I52322
#status Preliminary; translated from GB/EMBL/DBJ
#molecule_type mRNA
#residues 1-92 #label RES
##cross-references EMBL:U22414; NID:g7906332; PID:g790633
CLASSIFICATION #superfamily macrophage inflammatory protein
SUMMARY #length 92 #molecular-weight 10335 #checksum 3184

Query Match 90.1%; Score 82; DB 2; Length 92;
Best Local Similarity 75.0%; Pred. No. 4.01e-05;
Matches 9; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 71 QICADPKETWVQ 82
I:||||| I:||||
QY 1 QVCADPSESVMQ 12

RESULT 7
ENTRY I48147 #type complete
TITLE monocyte chemoattractant protein-1 - guinea pig
#organism #formal_name Cavia porcellus #common_name guinea pig
DATE 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change
09-May-1997
ACCESSIONS I48147
REFERENCE I48147
#authors Yoshimura, T.
#journal J. Immunol. (1993) 150:5025-5032
#title cDNA cloning of guinea pig monocyte chemoattractant protein-1
#cross-references MUID:93267104
#accession I48147
#status preliminary; translated from GB/EMBL/DBJ
#molecule_type mRNA
#residues 1-120 #label RES
##cross-references GB:L04985; NID:g349820; PID:g349821
GENETICS MCP-1
#gene #superfamily macrophage inflammatory protein
CLASSIFICATION #length 120 #molecular-weight 13741 #checksum 9252
SUMMARY

Query Match 84.6%; Score 77; DB 2; Length 120;
Best Local Similarity 66.7%; Pred. No. 4.39e-04;
Matches 8; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

Db 71 EVCADPTQKVVQ 82
I:||||| I:|
QY 1 QVCADPSESVMQ 12

RESULT 8
ENTRY C30552 #type complete
TITLE macrophage inflammatory protein 1-beta precursor - mouse
#organism #formal_name Mus musculus #common_name house mouse
DATE 28-Aug-1989 #sequence_revision 28-Aug-1989 #text_change
13-Nov-1998
ACCESSIONS C30552
REFERENCE C30552
#authors Brown, K.D.; Zurawski, S.M.; Mosmann, T.R.; Zurawski, G.
#journal J. Immunol. (1989) 142:679-687
#title A family of small inducible proteins secreted by leukocytes
#cross-references MUID:89093958
#accession C30552
#molecule_type mRNA
#residues 1-92 #label BRO

```

```

##cross-references GB:M33503; NID:g533244; PID:g533245
REFERENCE JLO088
#authors Sherry, B.; Tekamp-Olson, P.; Gallegos, C.; Bauer, D.;
Davatelis, G.; Wolpe, S.D.; Masiarz, F.; Coit, D.; Cerami,
A.
#journal J. Exp. Med. (1988) 168:2251-2259
#title Resolution of the two components of macrophage inflammatory
protein 1, and cloning and characterization of one of those
components, macrophage inflammatory protein 1 beta.
#cross-references MUID:89067830
#accession JLO088
#molecule_type mRNA
#residues 1-92 #label SHE
##cross-references GB:M35590; NID:g199696; PID:g199697
#accession PS0304
#molecule_type protein
#residues 24-33,'XX','36','X','38 #label SH2
REFERENCE S22042
#authors Daubersies, P.; Lepretre, F.; Bailloul, B.; Grove, M.;
Pragnell, I.; Plumb, M.
#submission submitted to the EMBL Data Library, October 1991
#description Sequence of the murine macrophage inflammatory protein 1b
#accession S22042
#status preliminary
#molecule_type DNA
#residues 1-92 #label DAU
##cross-references EMBL:X62502; NID:g53126; PID:g53127
COMMENT This protein is a monokine.
GENETICS
#introns 26/1; 64/2
CLASSIFICATION #superfamily macrophage inflammatory protein
KEYWORDS glycoprotein
FEATURE
1-23 #domain signal sequence #status predicted #label SIG\
24-92 #product macrophage inflammatory protein 1-beta #status
experimental #label MAT\
76 #binding site carbohydrate (Asn) (covalent) #status
predicted
SUMMARY #length 92 #molecular-weight 10168 #checksum 7516

Query Match 83.5%; Score 76; DB 2; Length 92;
Best Local Similarity 72.7%; Pred. No. 7.04e-04;
Matches 8; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

Db 72 QICANPSPWV 82
I:||||| I:|
QY 1 QVCADPSESVMQ 11

RESULT 9
ENTRY A32393 #type complete
TITLE macrophage inflammatory protein-1-alpha precursor - mouse
ALTERNATE_NAMES heparin-binding chemotaxis protein; L2G25B protein;
SCI/MIP-1a; SIS alpha; stem cell inhibitor/macrophage
inflammatory protein 1-alpha; T-cell activation protein
alpha; Ty5
#organism #formal_name Mus musculus #common_name house mouse
DATE 17-Jul-1992 #sequence_revision 17-Jul-1992 #text_change
08-Sep-1997
ACCESSIONS S11685; A32393; S04533; A53885; A30552; PS0303; A27596;
156104
REFERENCE S11685
#authors Grove, M.; Lowe, S.; Graham, G.; Pragnell, I.; Plumb, M.
#journal Nucleic Acids Res. (1990) 18:5561
#title Sequence of the murine haemopoietic stem cell
inhibitor/macrophage inflammatory protein 1-alpha gene.
#cross-references MUID:91016858
#accession S11685
#molecule_type DNA
#residues 1-92 #label GRO
##cross-references EMBL:X53372; NID:g54062; PID:g297531
##note the authors' translation of the nucleotide sequence

```


differs at several positions from the sequence given

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REFERENCE
#authors      Kwon, B.S.; Weissman, S.M.
#journal      Proc. Natl. Acad. Sci. U.S.A. (1989) 86:1963-1967
#title        cDNA sequence of two inducible T-cell genes.
#cross-references MUID:89184547
#accession    A32393
#molecule_type mRNA
#residues     1-92 ##label KWO
##cross-references GB:J04491; NID:g201524; PID:g201525
S04533
#authors      Davatelis, G.; Tekamp-Olson, P.; Wolpe, S.D.; Hermesen, K.;
               Luedke, C.; Gallegos, C.; Coit, D.; Merryweather, J.;
               Cerami, A.
#journal      J. Exp. Med. (1988) 167:1939-1944
#title        Cloning and characterization of a cDNA for murine macrophage
               inflammatory protein (MIP), a novel monokine with
               inflammatory and chemokinetic properties.
#cross-references MUID:88258380
#accession    S04533
#molecule_type mRNA
#residues     1-48, 'E', 50-90, 'I', 92 ##label DA2
##cross-references EMBL:X12531
#note         the authors translated the codon GAG for residue 49 as
               Asp and ATT for residue 91 as Asn
#note         the sequence has been corrected in reference A53885
#authors      A53885
               Davatelis, G.; Tekamp-Olson, P.; Wolpe, S.D.; Hermesen, K.;
               Luedke, C.; Gallegos, C.; Coit, D.; Merryweather, J.;
               Cerami, A.
#journal      J. Exp. Med. (1989) 170:2189
#contents     erratum
#accession    A53885
#molecule_type mRNA
#residues     1-92 ##label DAV
##cross-references EMBL:X12531; NID:g53122; PID:g53123
A30552
#authors      Brown, K.D.; Zurawski, S.M.; Mosmann, T.R.; Zurawski, G.
#journal      J. Immunol. (1989) 142:679-687
#title        A family of small inducible proteins secreted by leukocytes
               are members of a new superfamily that includes leukocyte
               and fibroblast-derived inflammatory agents, growth factors,
               and indicators of various activation processes.
#cross-references MUID:89093958
#accession    A30552
#molecule_type mRNA
#residues     1-21, 'L', 23-61, 'A', 63-92 ##label BRO
##cross-references GB:M23447; NID:g533240; PID:g533241
JL0088
#authors      Sherry, B.; Tekamp-Olson, P.; Gallegos, C.; Bauer, D.;
               Davatelis, G.; Wolpe, S.D.; Maslitz, F.; Coit, D.; Cerami,
               A.
#journal      J. Exp. Med. (1988) 168:2251-2259
#title        Resolution of the two components of macrophage inflammatory
               protein 1, and cloning and characterization of one of those
               components, macrophage inflammatory protein 1 beta.
#cross-references MUID:89067830
#accession    PS0303
#molecule_type mRNA
#residues     24-33, 'XX', 36-54 ##label SHE
#authors      Wolpe, S.D.; Davatelis, G.; Sherry, B.; Beutler, B.; Hesse,
               D.G.; Nguyen, H.T.; Moldawer, L.L.; Nathan, C.F.; Lowry,
               S.F.; Cerami, A.
#journal      J. Exp. Med. (1988) 167:570-581
#title        Macrophages secrete a novel heparin-binding protein with
               inflammatory and neutrophil chemokinetic properties.
#cross-references MUID:88154745
#accession    A27596
#molecule_type protein
#residues     24-33, 'XX', 36-42 ##label WOL
#note         26-Met, 30-Pro, and 39-Thr were also found
REFERENCE
156104
#authors      Widmer, U.; Yang, Z.; van Deventer, S.; Manoque, K.R.;
               Sherry, B.; Cerami, A.
#journal      J. Immunol. (1991) 146:4031-4040
#title        Genomic structure of murine macrophage inflammatory
               protein-1-alpha and conservation of potential regulatory
               sequences with a human homolog, LD78.
#cross-references MUID:91237116
#accession    I56104
#molecule_type DNA
#status       preliminary; translated from GB/EMBL/DBJ
#residues     1-92 ##label RES
##cross-references GB:M73061; NID:g199694; PID:g199695
COMMENT       This protein is a monokine.
GENETICS
#introns      23/3; 26/1; 63/2
CLASSIFICATION
#superfamily macrophage inflammatory protein
KEYWORDS       heparin binding
FEATURE
1-23           #domain signal sequence #status predicted #label SIG\
24-92          #product macrophage inflammatory protein #status
               experimental #label MAT
SUMMARY        #length 92 #molecular-weight 10345 #checksum 5009
               Query Match 82.4%; Score 75; DB 2; Length 92;
               Best Local Similarity 66.7%; Pred. No. 1.13e-03;
               Matches 8; Conservative 3; Mismatches 1; Indels 0; Gaps 0;
Db 71 QICADSKETWVQ 82
   1:111: 1:111
QY 1 QVCADPSESQVQ 12
RESULT 10
ENTRY   A54678 #type complete
TITLE   monocyte chemoattractant protein 3 precursor - human
ALTERNATE_NAMES
ORGANISM monocyte chemoattractant protein MCP-3
DATE      28-Oct-1994 #sequence_revision 28-Oct-1994 #text_change
17-Mar-1999
A54678
#authors Opdenakker, G.; Fiten, P.; Nys, G.; Froyen, G.; Van Roy, N.;
               Speleman, F.; Laureys, G.; Van Damme, J.
#journal Genomics (1994) 21:403-408
#title    The human MCP-3 gene (SCYA7): cloning, sequence analysis, and
               assignment to the C-C chemokine gene cluster on chromosome
               17q11.2-q12.
#cross-references MUID:94375065
#accession A54678
#molecule_type DNA
#residues 1-109 ##label OPD
##cross-references GB:X72309
JCL1478
#authors Opdenakker, G.; Froyen, G.; Fiten, P.; Proost, P.; Van Damme,
               J.
#journal Biochem. Biophys. Res. Commun. (1993) 191:535-542
#title    Human monocyte chemoattractant protein-3 (MCP-3): Molecular
               cloning of the cDNA and comparison with other chemokines.
#cross-references MUID:93213290
#accession JCL1478
#molecule_type mRNA
#residues 1-109 ##label OP2
S32222
#authors Minty, A.; Chalon, P.; Guillemot, J.C.; Kaghad, M.; Liauzun,
               P.; Magazin, M.; Miloux, B.; Minty, C.; Ramond, P.; Vita,
               N.; Lupker, J.; Shire, D.; Ferrara, P.; Caput, D.
#submission submitted to the EMBL Data Library, March 1993
#description Molecular cloning of MCP-3: a human monocyte-derived monocyte
               chemoattractant protein.
#accession S32222
#molecule_type mRNA
#residues 1-109 ##label MIN
##cross-references EMBL:X71087; NID:g288396; PID:g288397

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COMMENT      This protein induces proteinase secretion and chemotaxis by
              macrophages and monocytes.
GENETICS
#gene        GDB:SCYA7; SCYA6; MCP-3
##cross-references GDB:138473; OMIM:158106
#map_position 17q11-17q12
#introns      36/1; 75/2
CLASSIFICATION
#superfamily macrophage inflammatory protein
#cytokine; glycoprotein; inflammation
FEATURE
1-33
34-109
39
#domain signal sequence #status predicted #label SIG\
#product monocyte chemotactic protein 3 #status
#binding_site carbohydrate (Asn) (covalent) #status
#predicted
SUMMARY      #length 109 #molecular-weight 12356 #checksum 1535

Query Match      82.4%; Score 75; DB 2; Length 109;
Best Local Similarity 58.3%; Pred. No. 1.13e-03;
Matches 7; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 83 EICADPTQKWWQ 94
QY 1 QVCADPSESQWQ 12

RESULT 11
ENTRY      JE0177 #type complete
TITLE      lymphocyte and monocyte chemoattractant CC chemokine - human
ORGANISM   #formal_name Homo sapiens #common_name man
DATE       10-Jul-1998 #sequence_revision 10-Jul-1998 #text_change
17-Mar-1999
ACCESSIONS JE0177
REFERENCE   Youn, B.S.; Zhang, S.; Broxmeyer, H.E.; Antol, K.; Fraser
            Jr., M.J.; Hangoc, G.; Kwon, B.S.
            Biochem. Biophys. Res. Commun. (1998) 247:217-222
            Isolation and characterization of LMC, a novel lymphocyte and
            monocyte chemoattractant human CC chemokine, with
            myelosuppressive activity.
            #cross-references MUID:98308096
#accession JE0177
#molecule_type mRNA
#residues   1-120 ##label YOU
SUMMARY      #length 120 #molecular-weight 13600 #checksum 230

Query Match      81.3%; Score 74; DB 2; Length 120;
Best Local Similarity 50.0%; Pred. No. 1.80e-03;
Matches 6; Conservative 5; Mismatches 1; Indels 0; Gaps 0;

Db 74 EVCNPNDDWVQ 85
QY 1 QVCADPSESQWQ 12

RESULT 12
ENTRY      JC2417 #type complete
TITLE      monocyte chemoattractant protein-2 precursor - pig
ORGANISM   #formal_name Sus scrofa domestica #common_name domestic pig
DATE       24-Feb-1995 #sequence_revision 24-Feb-1995 #text_change
17-Mar-1999
ACCESSIONS JC2417
REFERENCE   Hosang, K.; Knoke, I.; Klaudiny, J.; Wempe, F.; Wuttke, W.;
            Scheit, K.H.
            Biochem. Biophys. Res. Commun. (1994) 205:148-153
            Porcine luteal cells express monocyte chemoattractant
            protein-2 (MCP-2): Analysis by cDNA cloning and northern
            analysis.
            #cross-references MUID:95091716
#accession JC2417
#molecule_type mRNA
#residues   1-99 ##label HOS

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##experimental_source corpus luteum
CLASSIFICATION #superfamily macrophage inflammatory protein
FEATURE
1-23
24-99
#domain signal sequence #status predicted #label SIG\
#product monocyte chemoattractant protein-2 #status
#predicted #label MCP
SUMMARY      #length 99 #molecular-weight 10903 #checksum 7556

Query Match      80.2%; Score 73; DB 2; Length 99;
Best Local Similarity 66.7%; Pred. No. 2.85e-03;
Matches 8; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Db 73 EVCADPQKWWQ 84
QY 1 QVCADPSESQWQ 12

RESULT 13
ENTRY      A60299 #type complete
TITLE      monocyte chemoattractant protein 1 precursor - human
ALTERNATE_NAMES
GDCF-1; glioma-derived monocyte chemotactic factor 1; MCAF;
MCP-1; monocyte chemotactic factor 1; monocyte secretory
protein; tumor-derived chemotactic factor
CONTAINS     glioma-derived chemotactic factor 2 (GDCF-2)
ORGANISM     #formal_name Homo sapiens #common_name man
DATE         20-Feb-1993 #sequence_revision 20-Feb-1993 #text_change
20-Mar-1998
ACCESSIONS   A35474; A33476; S03339; I51841; A60299; A32300; A32396;
            A34561; I57488; JCI096
            A35474
REFERENCE     Shyy, Y.J.; Li, Y.S.; Kolattukudy, P.E.
            Biochem. Biophys. Res. Commun. (1990) 169:346-351
            Structure of human monocyte chemotactic protein gene and its
            regulation by TPA.
            #cross-references MUID:90290466
#accession   A35474
#molecule_type DNA
#residues    1-99 ##label SHY
#cross-references GB:M37719; NID:g187447; PID:g487124
A33476
REFERENCE     Rollins, B.J.; Stier, P.; Ernst, T.; Wong, G.G.
            Mol. Cell. Biol. (1989) 9:4687-4695
            The human homolog of the JE gene encodes a monocyte secretory
            protein.
            #cross-references MUID:90097880
#accession   A33476
#molecule_type mRNA
#residues    1-99 ##label ROL
#cross-references GB:M30816; GB:M31625; GB:M31626; NID:g188701;
            PID:g386961
S03339
REFERENCE     Yoshimura, T.; Yuhki, N.; Moore, S.K.; Appella, E.; Lerman,
            M.I.; Leonard, E.J.
            FEBS Lett. (1989) 244:487-493
            Human monocyte chemoattractant protein-1 (MCP-1). Full-length
            cDNA cloning, expression in mitogen-stimulated blood
            mononuclear leukocytes, and sequence similarity to mouse
            competence gene JE.
            #cross-references MUID:89153605
#accession   S03339
#status      not compared with conceptual translation
#molecule_type mRNA
#residues    1-99 ##label YOS
#cross-references GB:X14768; NID:g34513; PID:g34514
##experimental_source glioma cell line U-105MG
I51841
REFERENCE     Yoshimura, T.; Leonard, E.J.
            Adv. Exp. Med. Biol. (1991) 305:47-56
            Human monocyte chemoattractant protein-1 (MCP-1).
            #cross-references MUID:92095166
#accession   I51841
#status      preliminary; translated from GB/EMBL/DBJ
#molecule_type mRNA

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##residues      1-99 ##label Y02
##cross-references GB:S71513; NID:g240867; PID:g240868
REFERENCE
#authors      Bottazzi, B.; Colotta, F.; Sica, A.; Nobili, N.; Mantovani, A.
#journal      Int. J. Cancer (1990) 45:795-797
#title        A chemoattractant expressed in human sarcoma cells
              (tumor-derived chemotactic factor, TDCF) is identical to
              monocyte chemoattractant protein-1/monocyte chemotactic and
              activating factor (MCP-1/MCAF).
#accession    A60299
#status      not compared with conceptual translation
#molecule_type mRNA
##residues      1-99 ##label BOT
REFERENCE
#authors      Furutani, Y.; Nomura, H.; Notake, M.; Oyama, Y.; Fukui, T.;
              Yamada, M.; Larsen, C.G.; Oppenheim, J.J.; Matsushima, K.
#journal      Biochem. Biophys. Res. Commun. (1989) 159:249-255
#title        Cloning and sequencing of the cDNA for human monocyte
              chemotactic and activating factor (MCAF).
#cross-references MUID:89165862
#accession    A32300
#status      not compared with conceptual translation
#molecule_type mRNA
##residues      1-99 ##label FUR
##cross-references GB:M24545; NID:g187434; PID:g307163
REFERENCE
#authors      Robinson, E.A.; Yoshimura, T.; Leonard, E.J.; Tanaka, S.;
              Griffin, P.R.; Shabanowitz, J.; Hunt, D.F.; Appella, E.
#journal      Proc. Natl. Acad. Sci. U.S.A. (1989) 86:1850-1854
#title        Complete amino acid sequence of a human monocyte
              chemoattractant, a putative mediator of cellular immune
              reactions.
#cross-references MUID:89184525
#accession    A32396
#molecule_type protein
##residues      'X', 25-99 ##label ROB
REFERENCE
#authors      Decock, B.; Conings, R.; Lenaerts, J.P.; Billiau, A.; Van
              Damme, J.
#journal      Biochem. Biophys. Res. Commun. (1990) 167:904-909
#title        Identification of the monocyte chemotactic protein from human
              osteosarcoma cells and monocytes: detection of a novel
              N-terminally processed form.
#cross-references MUID:90211336
#accession    A34561
#molecule_type protein
##residues      29-33, 'XX', 36-52; 82-92 ##label DEC
REFERENCE
#authors      Li, Y.S.; Shyy, Y.J.; Wright, J.G.; Valente, A.J.; Cornhill,
              J.F.; Kolattukudy, P.E.
#journal      Mol. Cell. Biochem. (1993) 126:61-68
#title        The expression of monocyte chemotactic protein (MCP-1) in
              human vascular endothelium in vitro and in vivo.
#cross-references MUID:94150478
#accession    I57488
#status      translated from GB/EMBL/DBJ
#molecule_type mRNA
##residues      1-99 ##label LIY
##cross-references GB:S69738; NID:g545464; PID:g545465
REFERENCE
#authors      Ye, Q.N.; Su, G.F.; Yuan, Y.; Huang, C.F.
#journal      Chinese J. Microbiol. Immunol. (1994) 14:29-32
#title        The PCR, cloning and sequencing of human monocyte
              chemoattractant protein-1 (MCP-1) gene.
#accession    JCI096
#molecule_type mRNA
##residues      24-28, 'Q', 30-99 ##label YEQ
GENETICS
#gene        GDB:SCYA2
#cross-references GDB:125279; OMIM:158105
#map_position 1q11.2-17q12
CLASSIFICATION #superfamily macrophage inflammatory protein

```

cytokine; glycoprotein; inflammation; pyroglutamic acid

#domain signal sequence #status predicted #label SIG\

#product monocyte chemoattractant protein 1 #status experimental #label MAR\

#product monocyte chemoattractant protein 1, short form #status experimental #label MAR2\

#modified site pyrrolidone carboxylic acid (Gln) (in mature form) #status experimental\

#binding_site carbohydrate (Asn) (covalent) #status predicted

SUMMARY #length 99 #molecular-weight 11025 #checksum 7984

Query Match 79.1%; Score 72; DB 2; Length 99;

Best Local Similarity 58.3%; Pred. No. 4.53e-03;

Matches 7; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

Db 73 EICADPKQKWQ 84

:|||||:||||

QY 1 QVCADPSESVMQ 12

RESULT 14

ENTRY A46539 #type complete

TITLE monocyte chemoattractant cytokine RANTES precursor - mouse

ALTERNATE_NAMES MuRantes

ORGANISM #formal_name Mus musculus #common_name house mouse

DATE 18-Jun-1993 #sequence_revision 16-Aug-1996 #text_change 23-Jan-1999

ACCESSIONS I48875; A46539; I48654; I56970

REFERENCE I48875 Danoff, T.M.; Lalley, P.A.; Chang, Y.S.; Heeger, P.S.; Neilson, E.G.

#authors J. Immunol. (1994) 152:1182-1189

#journal Cloning, genomic organization, and chromosomal localization

#title Of the Scya5 gene encoding the murine chemokine RANTES.

#cross-references MUID:94132613

#accession I48875

##status preliminary; translated from GB/EMBL/DBJ

##molecule_type DNA

##residues 1-91 ##label DAN

##cross-references EMBL:U02298; NID:g460090; PID:g460091

REFERENCE A46539

#authors Schall, T.J.; Simpson, N.J.; Mak, J.Y.

#journal Eur. J. Immunol. (1992) 22:1477-1481

#title Molecular cloning and expression of the murine RANTES cytokine: structural and functional conservation between mouse and man.

#cross-references MUID:92289805

#accession A46539

##molecule_type mRNA

##residues 1-18, 'A', 20-91 ##label SCH

##cross-references GB:S37648; NID:g250207; PID:g250208

##experimental_source macrophage cell line P05-1.8

##note sequence extracted from NCBI backbone (NCBIN:106768, NCBIP:106770)

REFERENCE I48654

#authors Shin, H.S.; Drysdale, B.E.; Shin, M.L.; Noble, P.W.; Fisher, S.N.; Paznekas, W.A.

#journal Mol. Cell. Biol. (1994) 14:2914-2925

#title Definition of a lipopolysaccharide-responsive element in the 5'-flanking regions of MuRantes and crg-2.

#cross-references MUID:94217689

#accession I48654

##status translation not shown; translated from GB/EMBL/DBJ

##molecule_type DNA

##residues 1-91 ##label SHI

##cross-references EMBL:X07675; NID:g475205; PID:g475206

REFERENCE I56970

#authors Neilson, E.G.; Krensky, A.

#journal Kidney Int. (1992) 41:220-225

#title Isolation and characterization of cDNA from renal tubular epithelium encoding murine Rantes: A small intercrine from

```

#cross-references MUID:92277990
#accession I56970
##status translated from GB/EMBL/DBJ
##molecule_type mRNA
##residues 1-40,'E',42-91 ##label NEI
##cross-references GB:M77747; NID:g200649; PID:g200650
COMMENT This chemoattractant for monocytes but not neutrophils is an
immediate-early response protein to LPS stimulation.

GENETICS
#introns 26/1; 63/2
CLASSIFICATION #superfamily macrophage inflammatory protein
KEYWORDS chemotaxis; cytokine; immediate-early protein; inflammation
FEATURE
1-23
24-91
SUMMARY #length 91 #molecular-weight 10071 #checksum 3010

Query Match 78.0%; Score 71; DB 1; Length 91;
Best Local Similarity 66.7%; Pred.No. 7.16e-03;
Matches 8; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Db 71 QVCANPEKKWVQ 82
QY 1 QVCADPSESQVQ 12
|||||
|

RESULT 15
ENTRY #type complete
TITLE monocyte chemotactic protein-2 precursor - human
ORGANISM #formal_name Homo sapiens #common_name man
DATE 02-May-1997 #sequence_revision 18-Jul-1997 #text_change
17-Mar-1999
ACCESSIONS JC5295
REFERENCE JC5295
#authors Van Coillie, E.; Froyen, G.; Nomiya, H.; Miura, R.; Fiten,
P.; Van Aelst, I.; Van Damme, J.; Odenakker, G.
#journal Biochem. Biophys. Res. Commun. (1997) 231:726-730
#title Human monocyte chemotactic protein-2: cDNA cloning and
regulated expression of mRNA in mesenchymal cells.
#cross-references MUID:97224420
#accession JC5295
##molecule_type mRNA
##residues 1-99 ##label VAN
##cross-references GB:Y10802; NID:g1924937; PID:g294088; PID:g1924938
##experimental_source bone marrow
COMMENT This protein belongs to the beta-chemokine family which is one of
the major HIV-suppressive factors. It plays roles in autoimmune
processes such as multiple sclerosis and rheumatoid arthritis and
in tumor biology, and contribute to the trafficking and
recruitment of the responsive cells.

GENETICS
#gene mcp-2
CLASSIFICATION #superfamily macrophage inflammatory protein
FEATURE
1-23
24-99
#domain signal sequence #status predicted #label SIG\
#product monocyte chemotactic protein-2 #status
predicted #label MAT
SUMMARY #length 99 #molecular-weight 11246 #checksum 6596

Query Match 78.0%; Score 71; DB 2; Length 99;
Best Local Similarity 66.7%; Pred.No. 7.16e-03;
Matches 8; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Db 73 EVCADPKRWVR 84
QY 1 QVCADPSESQVQ 12
|||||
|

```

Search completed: Fri Feb 4 17:27:28 2000
Job time : 16 secs.

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 (TM)

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MPsrch_pp protein - protein database search, using Smith-Waterman algorithm

Run on: Fri Feb 4 17:33:35 2000; MasPar time 2.52 Seconds
 134.696 Million cell updates/sec

Tabular output not generated.

Title: >US-09-150-813-44
 Description: (1-12) from US09150813.pap

Perfect Score: 91
 Sequence: 1 QVCADPSESQVQ 12

Scoring table: PAM 150
 Gap 15

Searched: 77977 seqs, 28268293 residues

Post-processing: Minimum Match 0%
 Listing first 45 summaries

Database: swiss-prot37
 1:swissprot

Statistics: Mean 25.122; Variance 33.379; scale 0.753

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match % | Length | ID | Description | Pred. No. |
|------------|-------|---------------|--------|----|-------------|---------------------------------|
| 1 | 91 | 100.0 | 92 | 1 | MILB_HUMAN | MACROPHAGE INFLAMMATOR 2.87e-08 |
| 2 | 88 | 96.7 | 92 | 1 | MILB_RABIT | MACROPHAGE INFLAMMATOR 1.53e-07 |
| 3 | 86 | 94.5 | 92 | 1 | MILB_HUMAN | MACROPHAGE INFLAMMATOR 4.59e-07 |
| 4 | 86 | 94.5 | 93 | 1 | MILB_HUMAN | TONSILLAR LYMPHOCYTE L 4.59e-07 |
| 5 | 82 | 90.1 | 92 | 1 | MILB_RAT | MACROPHAGE INFLAMMATOR 4.04e-06 |
| 6 | 79 | 86.8 | 92 | 1 | MILB_RAT | MACROPHAGE INFLAMMATOR 2.01e-05 |
| 7 | 77 | 84.6 | 120 | 1 | MCP1_CAVPO | MONOCYTE CHEMOTACTIC P 5.79e-05 |
| 8 | 76 | 83.5 | 92 | 1 | MILB_MOUSE | MACROPHAGE INFLAMMATOR 9.78e-05 |
| 9 | 75 | 82.4 | 92 | 1 | MILB_MOUSE | MACROPHAGE INFLAMMATOR 1.65e-04 |
| 10 | 75 | 82.4 | 98 | 1 | MCP4_HUMAN | MONOCYTE CHEMOTACTIC P 1.65e-04 |
| 11 | 75 | 82.4 | 99 | 1 | MCP3_HUMAN | MONOCYTE CHEMOTACTIC P 1.65e-04 |
| 12 | 74 | 81.3 | 89 | 1 | MIP4_HUMAN | MACROPHAGE INFLAMMATOR 2.76e-04 |
| 13 | 73 | 80.2 | 93 | 1 | CCCL_HUMAN | CHEMOKINE CC-1 PRECURS 4.63e-04 |
| 14 | 73 | 80.2 | 99 | 1 | MCP2_PIG | MONOCYTE CHEMOTACTIC P 4.63e-04 |
| 15 | 73 | 80.2 | 109 | 1 | CCC3_HUMAN | CHEMOKINE CC-3 PRECURS 4.63e-04 |
| 16 | 72 | 79.1 | 99 | 1 | MCP1_HUMAN | MONOCYTE CHEMOTACTIC P 7.72e-04 |
| 17 | 72 | 79.1 | 99 | 1 | MCP2_BOVIN | MONOCYTE CHEMOTACTIC P 7.72e-04 |
| 18 | 72 | 79.1 | 101 | 1 | MCP1_CANFA | MONOCYTE CHEMOTACTIC P 7.72e-04 |
| 19 | 71 | 78.0 | 91 | 1 | MCP1_MOUSE | T-CELL SPECIFIC RANTES 1.28e-03 |
| 20 | 71 | 78.0 | 92 | 1 | SISD_MOUSE | T-CELL SPECIFIC RANTES 1.28e-03 |
| 21 | 71 | 78.0 | 99 | 1 | SISD_RAT | MONOCYTE CHEMOTACTIC P 1.28e-03 |
| 22 | 71 | 78.0 | 99 | 1 | MCP2_HUMAN | MONOCYTE CHEMOTACTIC P 1.28e-03 |
| 23 | 70 | 76.9 | 90 | 1 | MILB_CHICK | MACROPHAGE INFLAMMATOR 2.13e-03 |

| | | | | | | |
|----|----|------|-----|---|------------|---------------------------------|
| 24 | 70 | 76.9 | 101 | 1 | IL8_CANFA | INTERLEUKIN-8 PRECURSO 2.13e-03 |
| 25 | 70 | 76.9 | 101 | 1 | IL8_SHEEP | INTERLEUKIN-8 PRECURSO 2.13e-03 |
| 26 | 70 | 76.9 | 103 | 1 | IL8_PIG | INTERLEUKIN-8 PRECURSO 2.13e-03 |
| 27 | 70 | 76.9 | 148 | 1 | MCP1_RAT | MONOCYTE CHEMOTACTIC P 2.13e-03 |
| 28 | 70 | 76.9 | 148 | 1 | MCP1_MOUSE | MONOCYTE CHEMOTACTIC P 3.51e-03 |
| 29 | 69 | 75.8 | 74 | 1 | MCPB_BOVIN | MONOCYTE CHEMOTACTIC P 3.51e-03 |
| 30 | 69 | 75.8 | 103 | 1 | EMFI_CHICK | EMERYO FIBROBLAST PROT 3.51e-03 |
| 31 | 69 | 75.8 | 116 | 1 | C10_MOUSE | C10 PROTEIN PRECURSOR 3.51e-03 |
| 32 | 69 | 75.8 | 125 | 1 | MCP1_RABIT | MONOCYTE CHEMOTACTIC P 3.51e-03 |
| 33 | 68 | 74.7 | 97 | 1 | EOTA_MOUSE | EOTAXIN PRECURSOR (EOS 5.79e-03 |
| 34 | 68 | 74.7 | 97 | 1 | EOTA_RAT | EOTAXIN PRECURSOR (EOS 5.79e-03 |
| 35 | 68 | 74.7 | 99 | 1 | MCPA_BOVIN | MONOCYTE CHEMOTACTIC P 5.79e-03 |
| 36 | 68 | 74.7 | 104 | 1 | MCP5_MOUSE | MONOCYTE CHEMOTACTIC P 5.79e-03 |
| 37 | 67 | 73.6 | 101 | 1 | IL8_BOVIN | INTERLEUKIN-8 PRECURSO 9.49e-03 |
| 38 | 66 | 72.5 | 97 | 1 | EOTA_HUMAN | EOTAXIN PRECURSOR (EOS 1.55e-02 |
| 39 | 66 | 72.5 | 99 | 1 | IL8_HUMAN | INTERLEUKIN-8 PRECURSO 1.55e-02 |
| 40 | 66 | 72.5 | 101 | 1 | IL8_CERTO | INTERLEUKIN-8 PRECURSO 1.55e-02 |
| 41 | 66 | 72.5 | 101 | 1 | IL8_MACMU | INTERLEUKIN-8 PRECURSO 1.55e-02 |
| 42 | 66 | 72.5 | 122 | 1 | MILG_MOUSE | MACROPHAGE INFLAMMATOR 1.55e-02 |
| 43 | 65 | 71.4 | 50 | 1 | SISD_PIG | T-CELL SPECIFIC RANTES 2.52e-02 |
| 44 | 65 | 71.4 | 91 | 1 | SISD_CAVPO | T-CELL SPECIFIC RANTES 2.52e-02 |
| 45 | 65 | 71.4 | 96 | 1 | EOTA_CAVPO | EOTAXIN PRECURSOR (EOS 2.52e-02 |

ALIGNMENTS

| | | | | |
|--------|---|-------------------------|------|--------|
| RESULT | 1 | STANDARD; | PRT; | 92 AA. |
| ID | MILB_HUMAN | P13236; P22617; Q13704; | | |
| AC | 01-JAN-1990 (REL. 13, LAST SEQUENCE UPDATE) | | | |
| DT | 01-JAN-1990 (REL. 13, LAST SEQUENCE UPDATE) | | | |
| DT | 01-JAN-1997 (REL. 35, LAST ANNOTATION UPDATE) | | | |
| DE | MACROPHAGE INFLAMMATORY PROTEIN 1-BETA PRECURSOR (MIP-1-BETA) (T-CELL ACTIVATION PROTEIN 2) (ACT-2) (PAT 744) (H400) (SIS-GAMMA) (LYMPHOCYTE DE ACTIVATION GENE-1 PROTEIN) (LAG-1) (HC21) (SMALL INDUCIBLE CYTOKINE A4) (G-26 T LYMPHOCYTE-SECRETED PROTEIN). | | | |
| GN | SCYA4 OR MIP1B OR LAG1. | | | |
| OS | HOMO SAPIENS (HUMAN). | | | |
| OC | EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; | | | |
| OC | PRIMATES; CATARRHINI; HOMINIDAE; HOMO. | | | |
| RN | [1] | | | |
| RP | SEQUENCE FROM N.A. | | | |
| RX | MEDLINE; 89071764. | | | |
| RA | LIPES M.A., NAPOLITANO M., JEANG K.-T., CHANG N.T., LEONARD W.J.; | | | |
| RT | "Identification, cloning, and characterization of an immune activation gene." | | | |
| RT | "Identification gene." | | | |
| RL | PROC. NATL. ACAD. SCI. U.S.A. 85:9704-9708(1988). | | | |
| RN | [2] | | | |
| RP | SEQUENCE FROM N.A. | | | |
| RX | MEDLINE; 89140347. | | | |
| RA | ZIPPEL P.F., BALKE J., IRVING S.G., KELLY K., SIEBENLIST U.; | | | |
| RT | "Mitogenic activation of human T cells induces two closely related genes which share structural similarities with a new family of secreted factors." | | | |
| RL | J. IMMUNOL. 142:1582-1590(1989). | | | |
| RN | [3] | | | |
| RP | SEQUENCE FROM N.A. | | | |
| RX | MEDLINE; 89093958. | | | |
| RA | BROWN K.D., ZURAWSKI S.M., MOSMANN T.R., ZURAWSKI G.; | | | |
| RT | "A family of small inducible proteins secreted by leukocytes are members of a new superfamily that includes leukocyte and fibroblast-derived inflammatory agents, growth factors, and indicators of various activation processes." | | | |
| RL | J. IMMUNOL. 142:679-687(1989). | | | |
| RN | [4] | | | |
| RP | SEQUENCE FROM N.A. | | | |
| RX | MEDLINE; 91061800. | | | |
| RA | BAIXERAS E., ROMAN-ROMAN S., JITSUKAWA S., GENEVEE C., MECHICHE S., | | | |
| RT | VIEGAS-PROUIGNOT E., HERCEND T., TRIEBEL F.; | | | |
| RT | "Cloning and expression of a lymphocyte activation gene (LAG-1)." | | | |
| RL | MOL. IMMUNOL. 27:1091-1102(1990). | | | |
| RN | [5] | | | |
| RP | SEQUENCE FROM N.A. | | | |

```

FT CONFLICT 56 56 S -> I (IN REF. 7).
FT CONFLICT 70 70 S -> G (IN REF. 6).
FT CONFLICT 80 80 S -> T (IN REF. 7).
FT STRAND 29 29
FT STRAND 33 33
FT STRAND 45 47
FT STRAND 50 53
FT STRAND 63 66
FT STRAND 72 75
FT TURN 77 78
FT TURN 80 90
SQ SEQUENCE 92 AA; 10212 MW; F18E7AFD CRC32;

Query Match 100.0%; Score 91; DB 1; Length 92;
Best Local Similarity 100.0%; Pred. No. 2.87e-08;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Ddb 72 QVCADPSESWSQ 83
|||||
Qy 1 QVCADPSESWSQ 12

RESULT 2
IID MI1B_RABIT STANDARD; PRT; 92 AA.
AC P45632;
DT 01-NOV-1995 (REL. 32, CREATED)
DT 01-NOV-1995 (REL. 32, LAST SEQUENCE UPDATE)
DT 01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)
DE MACROPHAGE INFLAMMATORY PROTEIN 1-BETA PRECURSOR (MIP-1-BETA) (IMMUNE
DE ACTIVATION PROTEIN 2) (ACT-2).
DE SCYA4.
OS ORYCTOLAGUS CUNICULUS (RABBIT).
OC EUKARYOTA; METAQUA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC LAGOMORPHA; LEPORIDAE; ORYCTOLAGUS.
[1]
SEQUENCE FROM N.A.
STRAIN-NEW ZEALAND WHITE;
MEDLINE; 94198229.
AA MORI S., GOTO K., GOTO F., MUTAKAMI K., OHKAWARA S., YOSHINAGA M.;
TT "Dynamic changes in mRNA expression of neutrophils during the course
TT of acute inflammation in rabbits."
TT INT. IMMUNOL. 6:149-156(1994).
CC -1- FUNCTION: MONOKINE WITH INFLAMMATORY AND CHEMOKINETIC PROPERTIES
CC (BY SIMILARITY).
CC -1- SUBUNIT: HOMODIMER (BY SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
CC C-C) (CHEMOKINE CC).
CC
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CC -----
CC EMBL; D17402; G599578; .
CC PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
CC PFAM; PF00048; i18; 1.
CC HSSP; FL1236; 1HUN.
CC CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.
CC SIGNAL 1 23
CC CHAIN 24 92
CC DISULFID 34 58
CC DISULFID 35 74 BY SIMILARITY.
CC SEQUENCE 92 AA; 10066 MW; A629AB2D CRC32;

Query Match 96.7%; Score 88; DB 1; Length 92;
Best Local Similarity 91.7%; Pred. No. 1.53e-07;
Matches 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Ddb 72 QVCANPSESWSQ 83
|||||
Qy 1 QVCANPSESWSQ 12

```

QY 1 QVCADPSESQWQ 12

RESULT 3

ID M10_HUMAN STANDARD; PRT; 92 AA.

AC P10147;

DT 01-MAR-1989 (REL. 10, CREATED)

DT 01-MAR-1989 (REL. 10, LAST SEQUENCE UPDATE)

DT 01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)

DE MACROPHAGE INFLAMMATORY PROTEIN 1-ALPHA PRECURSOR (MIP-1-ALPHA)

DE (TONSILLAR LYMPHOCYTE LD78 ALPHA PROTEIN) (GOS19-1 PROTEIN) (SIS-BETA)

DE (PAT 464.1) (SMALL INDUCIBLE CYTOKINE A3).

GN SCVA3 OR MIP1A

OS HOMO SAPIENS (HUMAN)

OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;

OC PRIMATES; CATARRHINI; HOMINIDAE; HOMO.

RN [1]

RP SEQUENCE FROM N.A.

RX MEDLINE; 86223879.

RA OBARU K., FUKUDA M., MAEDA S., SHIMADA K.;

RT "A cDNA clone used to study mRNA inducible in human tonsillar

RT lymphocytes by a tumor promoter.";

RL J. BIOCHEM. 93:885-894(1986).

RN [2]

RP SEQUENCE FROM N.A.

RX MEDLINE; 89140347.

RA ZIPPEL P.F., BALKE J., IRVING S.G., KELLY K., SIEBENLIST U.;

RT "Mitogenic activation of human T cells induces two closely related

RT genes which share structural similarities with a new family of

RT secreted factors.";

RL J. IMMUNOL. 142:1582-1590(1989).

RN [3]

RP SEQUENCE FROM N.A.

RX MEDLINE; 91103879.

RA BLUM S., FORSDYKE R.E., FORSDYKE D.R.;

RT "Three human homologs of a murine gene encoding an inhibitor of stem

RT cell proliferation.";

RL DNA CELL BIOL. 9:589-602(1990).

RN [4]

RP SEQUENCE FROM N.A.

RX MEDLINE; 90287155.

RA NAKAO M., NOMIYAMA H., SHIMADA K.;

RT "Structures of human genes coding for cytokine LD78 and their

RT expression.";

RL MOL. CELL. BIOL. 10:3646-3658(1990).

CC -1- FUNCTION: MONOKINE WITH INFLAMMATORY AND CHEMOKINETIC PROPERTIES.

CC -1- INDUCTION: BY TPA OR PHA (TPA = 12-O-TETRADECANOYL PHORBOL-13

CC ACETATE (TUMOR PROMOTER); PHA = PHYTOHEMAGGLUTININ (T-CELL

CC MITOGEN).

CC -1- SIMILARITY: LD78-ALPHA AND -BETA ARE VERY CLOSELY RELATED.

CC -1- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE

CC C-C) (CHEMOKINE CC).

CC -----

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CC or send an email to license@isb-sib.ch).

CC -----

DR EMBL; D00044; D1000469; -

DR EMBL; M23452; G188559; -

DR EMBL; M25315; G602453; -

DR EMBL; X03754; G758089; -

DR EMBL; X04018; G34297; ALT_SEQ.

DR EMBL; M23178; G182847; -

DR EMBL; D90144; G219906; -

DR PIR; A24198; A24198.

DR PIR; A30574; A30574.

DR MIM; 182283; -

DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.

DR PF00048; I18; 1.

DR

DR HSP; P13236; LHUN.

KW CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.

FT SIGNAL 1 22 POTENTIAL.

FT CHAIN 23 92 MACROPHAGE INFLAMMATORY PROTEIN 1-ALPHA.

FT DISULFID 33 57 BY SIMILARITY.

FT DISULFID 34 73 BY SIMILARITY.

SQ SEQUENCE 92 AA; 10085 MW; C24DD919 CRC32;

Query Match 94.5%; Score 86; DB 1; Length 92;

Best Local Similarity 91.7%; Pred. No. 4.59e-07;

Matches 11; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Db 71 QVCADPSESQWQ 82

QY 1 QVCADPSESQWQ 12

RESULT 4

ID M10_HUMAN STANDARD; PRT; 93 AA.

AC P16619;

DT 01-AUG-1990 (REL. 15, CREATED)

DT 01-AUG-1990 (REL. 15, LAST SEQUENCE UPDATE)

DT 01-NOV-1997 (REL. 35, LAST ANNOTATION UPDATE)

DE TONSILLAR LYMPHOCYTE LD78 BETA PROTEIN PRECURSOR (GOS19-2 PROTEIN)

DE (PAT 464.2).

GN SCVA3L1 OR 464.2.

OS HOMO SAPIENS (HUMAN).

OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;

OC PRIMATES; CATARRHINI; HOMINIDAE; HOMO.

RN [1]

RP SEQUENCE FROM N.A.

RX MEDLINE; 90287702.

RA IRVING S.G., ZIPPEL P.F., BALKE J., MCBRIDE O.W., MORTON C.C.;

RA BURD P.R., SIEBENLIST U., KELLY K.;

RT "Two inflammatory mediator cytokine genes are closely linked and

RT variably amplified on chromosome 11q.";

RL NUCLEIC ACIDS RES. 18:3261-3270(1990).

RN [2]

RP SEQUENCE FROM N.A.

RX MEDLINE; 91103879.

RA BLUM S., FORSDYKE R.E., FORSDYKE D.R.;

RT "Three human homologs of a murine gene encoding an inhibitor of stem

RT cell proliferation.";

RL DNA CELL BIOL. 9:589-602(1990).

RN [3]

RP SEQUENCE FROM N.A.

RX MEDLINE; 90287155.

RA NAKAO M., NOMIYAMA H., SHIMADA K.;

RT "Structures of human genes coding for cytokine LD78 and their

RT expression.";

RL MOL. CELL. BIOL. 10:3646-3658(1990).

CC -1- SIMILARITY: 464.1 AND 464.2 ARE VERY CLOSELY RELATED.

CC -1- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE

CC C-C) (CHEMOKINE CC).

CC -----

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CC -----

DR EMBL; X52149; G296666; -

DR EMBL; M24110; G182849; -

DR EMBL; D90145; G219908; -

DR PIR; B30908; B30908.

DR PIR; B30412; B30412.

DR PIR; B35673; B35673.

DR PIR; S10157; S10157.

DR MIM; 601395; -

DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.

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DR PFAM; PF00048; i18; 1.
DR HSSP; P13236; 1HUN.
KW CYTOKINE; CHEMOTAXIS; SIGNAL.
FT SIGNAL 1 23
FT CHAIN 24 93
FT DISULFID 34 58
FT DISULFID 35 74
FT DISULFID 35 74
SQ SEQUENCE 93 AA; 10161 MW; 21EDB04 CRC32;

Query Match
Best Local Similarity 91.7%; DB 1; Length 93;
Matches 11; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Db 72 QVCADPSEWVQ 83
QY 1 QVCADPSEWVQ 12

RESULT 5
ID M1A_RAT STANDARD; PRT; 92 AA.
AC P50229;
DT 01-OCT-1996 (REL. 34, CREATED)
DT 01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)
DT 01-OCT-1997 (REL. 35, LAST ANNOTATION UPDATE)
DE MACROPHAGE INFLAMMATORY PROTEIN 1-ALPHA PRECURSOR (MIP-1-ALPHA).
CN SCYA3 OR MIP1A.
OS RATTUS NORVEGICUS (RAT).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; RATTUS.
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN-CD-1; TISSUE-LUNG;
RX MEDLINE; 95298037.
RA SHI M.M., GODLESKI J.J., PAULAKUSIS J.D.;
RT "Molecular cloning and posttranscriptional regulation of macrophage inflammatory protein-1 alpha in alveolar macrophages.";
RL BIOCHEM. BIOPHYS. RES. COMMUN. 211:289-295(1995).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN-LONG EVANS; TISSUE-LUNG;
RX MEDLINE; 95238980.
RA SHANLEY T.P., SCHMAL H., FRIEDL H.P., JONES M.L., WARD P.A.;
RT "Role of macrophage inflammatory protein-1 alpha (MIP-1 alpha) in acute lung injury in rats.";
RL J. IMMUNOL. 154:4793-4802(1995).
RN [3]
RP SEQUENCE OF 24-57.
RC STRAIN-WISTAR;
RX MEDLINE; 96183056.
RA NAKAGAWA H., SHIOTA S., TAKANO K., SHIBATA F., KATO H.;
RT "Cytokine-induced neutrophil chemoattractant (CINC)-2 alpha, a novel member of rat GRO/CINC, is a predominant chemokine produced by lipopolysaccharide-stimulated rat macrophages in culture.";
RL BIOCHEM. BIOPHYS. RES. COMMUN. 220:945-948(1996).
RN [4]
RP FUNCTION: MONOKINE WITH INFLAMMATORY AND CHEMOKINETIC PROPERTIES.
CC HAS CHEMOTACTIC ACTIVITY FOR MONOCYTES, NEUTROPHILS, EOSINOPHILS, BASOPHILS, AND LYMPHOCYTES. REQUIRED FOR LUNG TNF-ALPHA PRODUCTION, NEUTROPHIL RECRUITMENT AND SUBSEQUENT LUNG INJURY AND MAY FUNCTION AS AN AUTOCRINE MEDIATOR FOR THE MACROPHAGE PRODUCTION OF TNF-ALPHA WHICH IN TURN UP-REGULATES VASCULAR ADHESION MOLECULES REQUIRED FOR NEUTROPHIL INFILX. THIS PROTEIN BINDS HEPARIN.
CC -1- INDUCTION: BY LIPOPOLYSACCHARIDE (LPS).
CC -1- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE C-C) (CHEMOKINE CC).
CC
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CC EMBL; U22414; G790633; -.
DR EMBL; U06435; G459150; -.
DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
DR PFAM; PF00048; i18; 1.
DR HSSP; P13236; 1HUN.
KW CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL; HEPARIN-BINDING.
FT SIGNAL 1 23
FT CHAIN 24 92
FT DISULFID 34 57
FT DISULFID 35 73
FT DISULFID 35 73
FT CONFLICT 6 6
FT CONFLICT 57 57
FT CONFLICT 57 57
SQ SEQUENCE 92 AA; 10335 MW; F48CF89F CRC32;

Query Match
Best Local Similarity 90.1%; DB 1; Length 92;
Matches 9; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 71 QICADPKETWVQ 82
QY 1 QVCADPSEWVQ 12

RESULT 6
ID M1B_RAT STANDARD; PRT; 92 AA.
AC P50230;
DT 01-OCT-1996 (REL. 34, CREATED)
DT 01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)
DT 01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)
DE MACROPHAGE INFLAMMATORY PROTEIN 1-BETA PRECURSOR (MIP-1-BETA).
CN SCYA4 OR MIP1B.
OS RATTUS NORVEGICUS (RAT).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; RATTUS.
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN-LONG EVANS; TISSUE-LUNG;
RX MEDLINE; 95238980.
RA JONES M.L., SHANLEY T.P., SCHMAL H., FRIEDL H.P., WARD P.A.;
RT "Submitted (Feb-1994) to EMBL/GENBANK/DBJ DATA BANKS."
RN [2]
RP FUNCTION: MONOKINE WITH INFLAMMATORY AND CHEMOKINETIC PROPERTIES.
CC -1- SUBUNIT: HOMODIMER (BY SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE C-C) (CHEMOKINE CC).
CC
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CC
CC EMBL; U06434; G459148; -.
DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
DR PFAM; PF00048; i18; 1.
DR HSSP; P13236; 1HUN.
KW CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.
FT SIGNAL 1 23
FT CHAIN 24 92
FT DISULFID 34 58
FT DISULFID 35 74
FT DISULFID 35 74
SQ SEQUENCE 92 AA; 10234 MW; 3C82B006 CRC32;

Query Match
Best Local Similarity 86.8%; DB 1; Length 92;
Matches 9; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Db 72 QICADPSEWVQ 82
QY 1 QVCADPSEWVQ 11

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RESULT 7
ID MCP1_CAVPO STANDARD; PRT; 120 AA.
AC Q08782;
DT 01-NOV-1995 (REL. 32, CREATED)
DT 01-NOV-1995 (REL. 32, LAST SEQUENCE UPDATE)
DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
DE MONOCYTE CHEMOTACTIC PROTEIN 1 PRECURSOR (MCP-1) (MONOCYTE
DE CHEMOATTRACTANT PROTEIN-1).
GN SCYA2 OR MCP1.
OS CAVIA PORCELLUS (GUINEA PIG).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC RODENTIA; HYSTRICOGNATHI; CAVIADAE; CAVIA.
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN-Z; TISSUE=SPLEEN;
RX MEDLINE; 93267104.
RA YOSHIMURA T.;
RT "cDNA cloning of guinea pig monocyte chemoattractant protein-1 and
RT expression of the recombinant protein.";
RL J. IMMUNOL. 150:5025-5032(1993).
CC -!- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES, BUT NOT
CC NEUTROPHILS.
CC -!- SUBUNIT: MONOMER OR HOMODIMER; IN EQUILIBRIUM (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
CC C-C) (CHEMOKINE CC).
CC -----
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CC -----
CC EMBL; L04985; G349821; -.
CC DR EMBL; M35590; G199697; -.
CC DR EMBL; X62502; G53127; -.
CC DR PIR; C30552; C30552.
CC DR PIR; JLO088; JLO088.
CC DR MGI; MGI:8261; SCYA4.
CC DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
CC DR PFAM; PF00048; i18; 1.
CC DR HSP; P80098; INCV.
CC KW CYTOKINE; CHEMOTAXIS; SIGNAL; INFLAMMATORY RESPONSE; GLYCOPROTEIN.
CC FT SIGNAL 1 23
CC FT CHAIN 24 120 MONOCYTE CHEMOTACTIC PROTEIN 1.
CC FT MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID (BY
CC SIMILARITY).
CC FT DISULFID 33 57 BY SIMILARITY.
CC FT DISULFID 34 73 BY SIMILARITY.
CC FT CARBOHYD 97 97 POTENTIAL.
CC SQ SEQUENCE 120 AA; 13741 MW; 22FAD257 CRC32;

Query Match 84.6%; Score 77; DB 1; Length 120;
Best Local Similarity 66.7%; Pred. No. 5.79e-05;
Matches 8; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

Db 71 EVCADPTQKWVQ 82
Qy 1 QVCADPSESQVQ 12

RESULT 8
ID M1B_MOUSE STANDARD; PRT; 92 AA.
AC P14097;
DT 01-JAN-1990 (REL. 13, CREATED)
DT 01-FEB-1996 (REL. 33, LAST SEQUENCE UPDATE)
DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
DE MACROPHAGE INFLAMMATORY PROTEIN 1-BETA PRECURSOR (MIP-1-BETA) (H400
DE PROTEIN) (SIS-GAMMA) (ACT2).
GN SCYA4 OR MIP1B.
OS MUS MUSCULUS (MOUSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; MUS.
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE; 89067830.
RA SHERRY B.; TEKAMP-OLSON P.; GALLEGOS C.; BAUER D.; DAVATELIS G.;

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RA WOLPE S.D.; MASIAZ F.; COIT D.; CERAMI A.;
RT "Resolution of the two components of macrophage inflammatory protein
RT 1, and cloning and characterization of one of those components,
RT macrophage inflammatory protein 1 beta.";
RL J. EXP. MED. 168:2251-2259(1988).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE; 89093958.
RA BROWN K.D.; ZURAWSKI S.M.; MOSMANN T.R.; ZURAWSKI G.;
RT "A family of small inducible proteins secreted by leukocytes are
RT members of a new superfamily that includes leukocyte and
RT fibroblast-derived inflammatory agents, growth factors, and
RT indicators of various activation processes.";
RL J. IMMUNOL. 142:679-687(1989).
RN [3]
RP SEQUENCE FROM N.A.
RC STRAIN-DBA/2J; TISSUE=LIVER;
RA DAUBERSIES P.; LEPRETRE F.; BAILLEUL B.; GROVE M.; PRAGNELL I.;
RA PLUMB M.A.;
RL SUBMITTED (OCT-1991) TO EMBL/GENBANK/DBJ DATA BANKS.
CC -!- FUNCTION: MONOKINE WITH INFLAMMATORY AND CHEMOKINETIC PROPERTIES.
CC -!- SUBUNIT: HOMODIMER (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
CC C-C) (CHEMOKINE CC).
CC -----
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CC -----
CC EMBL; M23503; G533245; -.
CC DR EMBL; M35590; G199697; -.
CC DR EMBL; X62502; G53127; -.
CC DR PIR; C30552; C30552.
CC DR PIR; JLO088; JLO088.
CC DR MGI; MGI:8261; SCYA4.
CC DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
CC DR PFAM; PF00048; i18; 1.
CC DR HSP; P13236; IHUN.
CC KW CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.
CC FT SIGNAL 1 23
CC FT CHAIN 24 92 MACROPHAGE INFLAMMATORY PROTEIN 1-BETA.
CC FT DISULFID 34 58 BY SIMILARITY.
CC FT DISULFID 35 74 BY SIMILARITY.
CC FT CONFLICT 75 75 A -> P (IN REF. 1).
CC FT CONFLICT 79 79 E -> Q (IN REF. 1).
CC FT CONFLICT 88 88 D -> H (IN REF. 1).
CC SQ SEQUENCE 92 AA; 10168 MW; C543B91F CRC32;

Query Match 83.5%; Score 76; DB 1; Length 92;
Best Local Similarity 72.7%; Pred. No. 9.78e-05;
Matches 8; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

Db 72 QICANPSEPVW 82
Qy 1 QVCADPSESQV 11

RESULT 9
ID M1A_MOUSE STANDARD; PRT; 92 AA.
AC P10855; P14096;
DT 01-JUL-1989 (REL. 11, CREATED)
DT 01-APR-1990 (REL. 14, LAST SEQUENCE UPDATE)
DT 15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)
DE MACROPHAGE INFLAMMATORY PROTEIN 1-ALPHA PRECURSOR (MIP-1-ALPHA) (TY-5)
DE (SIS-ALPHA) (HEPARIN-BINDING CHEMOTAXIS PROTEIN) (L2G25B).
GN SCYA3 OR MIP1A.
OS MUS MUSCULUS (MOUSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; MUS.

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RA DAVALTELIS G., TEKAMP-OLSON P., WOLPE S.D., HERMSEN K., LUEDKE C.,
 RA GALLEGOS C., COIT D., MERRYWEATHER J., CERAMI A.,
 RT "Cloning and characterization of a cDNA for murine macrophage
 RT inflammatory protein (MIP), a novel monokine with inflammatory and
 RT chemokinetic properties.",
 RL J. EXP. MED. 167:1939-1944(1988).
 RN [2]
 RA DAVALTELIS G., TEKAMP-OLSON P., WOLPE S.D., HERMSEN K., LUEDKE C.,
 RA GALLEGOS C., COIT D., MERRYWEATHER J., CERAMI A.,
 RL J. EXP. MED. 170:2189-2189(1989).
 RN [3]
 RP SEQUENCE FROM N.A.
 RX MEDLINE: 89093958.
 RA BROWN K.D., ZURAWSKI S.M., MOSMANN T.R., ZURAWSKI G.,
 RT "A family of small inducible proteins secreted by leukocytes are
 RT members of a new superfamily that includes leukocyte and
 RT fibroblast-derived inflammatory agents, growth factors, and
 RT indicators of various activation processes.",
 RL J. IMMUNOL. 142:679-687(1989).
 RN [4]
 RP SEQUENCE FROM N.A.
 RC STRAIN-DBA/2J;
 RX MEDLINE: 91016858.
 RA GROVE M., LOWE S., GRAHAM G., PRAGNELL I., PLUMB M.,
 RT "Sequence of the murine haemopoietic stem cell inhibitor/macrophage
 RT inflammatory protein 1 alpha gene.",
 RL NUCLEIC ACIDS RES. 18:5561-5561(1990).
 RN [5]
 RP SEQUENCE FROM N.A.
 RX MEDLINE: 89184547.
 RA KWON B.S., WEISSMAN S.M.,
 RT "cDNA sequences of two inducible T-cell genes.",
 RL PROC. NATL. ACAD. SCI. U.S.A. 86:1963-1967(1989).
 RN [6]
 RP SEQUENCE FROM N.A.
 RX MEDLINE: 91237115.
 RA WIDMER U., YANG Z., VAN DEVENTER S., MANOGUE K.R., SHERRY B.,
 RA CERAMI A.,
 RT "Genomic structure of murine macrophage inflammatory protein-1 alpha
 RT and conservation of potential regulatory sequences with a human
 RT homolog, ID78.",
 RL J. IMMUNOL. 146:4031-4040(1991).
 RN [7]
 RP SEQUENCE FROM N.A.
 RC STRAIN-BALB/CJ, DBA/2J, NOD/LTJ, SJL/J, AND B10.S/J; TISSUE=SPLEEN;
 RA MA R.Z., TEUSCHER C.,
 RL SUBMITTED (MAY-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [8]
 RP SEQUENCE OF 24-42.
 RX MEDLINE: 88154745.
 RA WOLPE S.D., DAVALTELIS G., SHERRY B., BEUTLER B., HESSE D.G.,
 RA NGUYEN H.T., MOLDRAWER L.L., NATHAN C.F., LOWRY S.F., CERAMI A.,
 RT "Macrophage secrete a novel heparin-binding protein with
 RT inflammatory and neutrophil chemokinetic properties.",
 RL J. EXP. MED. 167:570-581(1988).
 CC -I- FUNCTION: MONOKINE WITH INFLAMMATORY, PYROGENIC AND CHEMOKINETIC
 CC PROPERTIES. HAS A POTENT CHEMOTACTIC ACTIVITY FOR EOSINOPHILS.
 CC BINDING TO A HIGH-AFFINITY RECEPTOR ACTIVATES CALCIUM RELEASE IN
 CC NEUTROPHILS.
 CC -I- TISSUE SPECIFICITY: EXPRESSED IN LUNG, SPLEEN, AND PANCREAS.
 CC -I- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
 CC C-C) (CHEMOKINE CC).
 CC -----
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 CC -----
 DR EMBL: M23447; G533241; -
 DR EMBL: X12531; G53123; -
 DR EMBL: X53372; G297531; -
 DR EMBL: J04491; G201525; -
 DR EMBL: M73061; G199695; -
 DR EMBL: AF085939; G318440; -
 DR EMBL: AF085940; G318442; -
 DR EMBL: AF085941; G318444; -
 DR EMBL: AF085942; G318446; -
 DR EMBL: AF085943; G318448; -
 DR PIR: A27596; A27596; -
 DR PIR: A30552; A30552; -
 DR PIR: A32393; A32393; -
 DR PIR: S04533; S04533; -
 DR PIR: S11685; S11685; -
 DR MGD; MGI:98260; SCYA3.
 DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
 DR PFAM; PF00048; I18; 1.
 DR HSSP; P13236; LHUN.
 KW CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.
 FT SIGNAL 1 23
 FT CHAIN 24 92
 FT DISULFID 34 57
 FT DISULFID 35 73
 FT CONFLICT 22 22
 FT CONFLICT 62 62
 SQ SEQUENCE 92 AA; 10345 MW; 53979E5E CRC32;
 Query Match 82.4%; Score 75; DB 1; Length 92;
 Best Local Similarity 66.7%; Pred. No. 1.65e-04;
 Matches 8; Conservative 3; Mismatches 1; Indels 0; Gaps 0;
 Db 71 QICADSKETWVQ 82
 QY 1 QVCADPSESVMQ 12
 RESULT 10
 ID MCP4_HUMAN STANDARD; PRT; 98 AA.
 AC Q99616;
 DT 15-JUL-1998 (REL. 36, CREATED)
 DT 15-JUL-1998 (REL. 36, LAST SEQUENCE UPDATE)
 DT 15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)
 DE MONOCYTE CHEMOTACTIC PROTEIN 4 PRECURSOR (MCP-4) (MONOCYTE
 DE CHEMOATTRACTANT PROTEIN 4) (CK-BETA10) (NCC-1).
 GN SCYA13 OR MCP4 OR NCC1.
 OS HOMO SAPIENS (HUMAN).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC PRIMATES; CATARRHINI; HOMINIDAE; HOMO.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=HEART;
 RX MEDLINE: 97113354.
 RA GARCIA-ZEPEDA E.A., COMBADIERE C., ROTHENBERG M.E., SARAFI M.N.,
 RA LAVIGNE F., HAMID Q., MURPHY P.M., LUSTER A.D.,
 RT "Human monocyte chemoattractant protein (MCP)-4 is a novel CC
 RT chemokine with activities on monocytes, eosinophils, and basophils
 RT induced in allergic and nonallergic inflammation that signals through
 RT the CC chemokine receptors (CCR)-2 and -3.",
 RL J. IMMUNOL. 157:5613-5626(1996).
 RN [2]
 RP SEQUENCE FROM N.A., AND SEQUENCE OF 17-98.
 RC TISSUE=FETAL;
 RX MEDLINE: 96235049.
 RA UGUCCIONI M., LOETSCHER P., FORSMANN U., DEWALD B., LI H., LIMA S.H.,
 RA LI Y., KREIDER B., GAROTTA G., THELEN M., BAGGIOLINI M.,
 RT "Monocyte chemotactic protein 4 (MCP-4), a novel structural and
 RT functional analogue of MCP-3 and eotaxin.",
 RL J. EXP. MED. 183:2379-2384(1996).
 RN [3]
 RP SEQUENCE FROM N.A., AND SEQUENCE OF 22-33.

RX TISSUE-PETAL:
 RX MEDLINE: 97341179
 RA BERKHOUT T.A., SRAU H.M., MOORES K., WHITE J.R., ELSHOUBAGY N.,
 RA APPELBAUM E., REAPE T.J., BRANNER M., MAKAWA J., FOLEY J.J.,
 RA SCHMIDT D.B., IMBURGIA C., MACNULTY D., MATTHEWS J., O'DONNELL K.,
 RA O'SHANNESSEY D., SCOTT M., GROOT P.H.E., MACPHEE C.;
 RT "Cloning, in vitro expression, and functional characterization of a
 RT novel human CC chemokine of the monocyte chemotactic protein (MCP)
 RT family (MCP-4) that binds and signals through the CC chemokine
 RT receptor 2B.";
 RL J. BIOL. CHEM. 272:16404-16413(1997).
 [4]
 RN SEQUENCE FROM N.A.
 RN DANTE M., GIBSON A.;
 RN SUBMITTED (AUG-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 [5]
 RN SEQUENCE FROM N.A.
 RN TISSUE=LUNG;
 RN POWER C.A., RYSON S.C.G., GUYE-COULIN F., WELLS T.N.C.;
 RL SUBMITTED (DEC-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 CC -!- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES, LYMPHOCYTES,
 CC BASOPHILS AND EOSINOPHILS, BUT NOT NEUTROPHILS. SIGNALS THROUGH
 CC CCR2B AND CCR3 RECEPTORS. PLAYS A ROLE IN THE ACCUMULATION OF
 CC LEUKOCYTES AT BOTH SIDES OF ALLERGIC AND NONALLERGIC INFLAMMATION.
 CC MAY BE INVOLVED IN THE RECRUITMENT OF MONOCYTES INTO THE ARTERIAL
 CC WALL DURING THE DISEASE PROCESS OF ARTERIOSCLEROSIS. MAY PLAY A
 CC ROLE IN THE MONOCYTE ATTRACTION IN TISSUES CHRONICALLY EXPOSED TO
 CC EXOGENOUS PATHOGENS.
 CC -!- MASS SPECTROMETRY: MW=9314; MW_ERR=30; METHOD=MALDI; RANGE=17-98.
 CC -!- MASS SPECTROMETRY: MW=8760; MW_ERR=30; METHOD=MALDI; RANGE=22-98.
 CC -!- MASS SPECTROMETRY: MW=8575; MW_ERR=30; METHOD=MALDI; RANGE=24-98.
 CC -!- INDUCTION: BY INTERLEUKIN-1 AND TNF-ALPHA.
 CC -!- TISSUE SPECIFICITY: WIDELY EXPRESSED. FOUND IN SMALL INTESTINE,
 CC THYMUS, COLON, LUNG, TRACHEA, STOMACH AND LYMPH NODE. LOW LEVELS
 CC SEEN IN THE PULMONARY ARTERY SMOOTH MUSCLE CELLS.
 CC -!- THIS PROTEIN CAN BIND HEPARIN.
 CC -!- PTM: ONE MAJOR ISOFORM MCP-4, AND TWO MINOR ISOFORMS (LA)MCP-4 AND
 CC (FNPG)MCP-4 ARE PRODUCED BY DIFFERENTIAL SIGNAL CLEAVAGE.
 CC (LA)MCP-4 IS ABOUT 30 FOLD LESS ACTIVE THAN MCP-4.
 CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
 CC C-C) (CHEMOKINE CC).

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 DR EMBL: U46767; G1732123;
 DR EMBL: AC002482; G2340091;
 DR EMBL: X98306; E248571;
 DR MIM: 601391;
 DR PROSITE: PS00472; SMALL_CYTOKINES_CC; 1.
 DR PFAM: PF00048; i18; 1.
 DR HSP: P13500; IDOL.
 KW CYTOKINE; CHEMOTAXIS; SIGNAL; GLYCOPROTEIN; INFLAMMATORY RESPONSE.
 FT SIGNAL 1 23
 FT CHAIN 24 98 MONOCYTE CHEMOTACTIC PROTEIN 4.
 FT MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID.
 FT DISULFID 34 58 BY SIMILARITY.
 FT DISULFID 35 74 BY SIMILARITY.
 FT CARBOHYD 29 29 POTENTIAL.
 SQ SEQUENCE 98 AA; 10986 MW; DF52F6EC CRC32;
 Query Match 82.4%; Score 75; DB 1; Length 98;
 Best Local Similarity 66.7%; Pred. No. 1.65e-04;
 Matches 8; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
 Db 72 ETCADPKKWWQ 83
 QY 1 QVCADPSESWWQ 12

RESULT 11
 ID MCP3_HUMAN STANDARD; PRT; 99 AA.
 AC P00098; 1992 (REL. 24, CREATED)
 DT 01-DEC-1992 (REL. 32, LAST SEQUENCE UPDATE)
 DT 01-NOV-1995 (REL. 36, LAST ANNOTATION UPDATE)
 DT 15-JUL-1998 (REL. 38, LAST ANNOTATION UPDATE)
 DE MONOCYTE CHEMOTACTIC PROTEIN 3 PRECURSOR (MCP-3) (MONOCYTE
 DE CHEMOATTRACTANT PROTEIN 3) (NC28).
 GN SCYA7 OR MCP3.
 OS HOMO SAPIENS (HUMAN).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC PRIMATES; CATARRHINI; HOMINIDAE; HOMO.
 [1]
 RN SEQUENCE FROM N.A., AND SEQUENCE OF 31-67 AND 71-99.
 RN MEDLINE: 93213290.
 RA OPDENAKKER G., FROYEN G., FITEN P., PROOST P., VAN DAMME J.;
 RT "Human monocyte chemotactic protein-3 (MCP-3): molecular cloning of
 RL the cDNA and comparison with other chemokines.";
 RL BIOCHEM. BIOPHYS. RES. COMMUN. 191:535-542(1993).
 [2]
 RN SEQUENCE FROM N.A.
 RN MEDLINE: 94375065.
 RA OPDENAKKER G., FITEN P., NYS G., FROYEN G., VAN ROY N., SPELEMAN F.,
 RA LAUREYS G., VAN DAMME J.;
 RT "The human MCP-3 gene (SCYA7): cloning, sequence analysis, and
 RT assignment to the C-C chemokine gene cluster on chromosome
 RT 17q11.2-q12.";
 RL GENOMICS 21:403-408(1994).
 [3]
 RN SEQUENCE FROM N.A.
 RN MEDLINE: 93305913.
 RA MINTY A., CHALON P., GUILLEMOT J.-C., KAGHAD M., LIAUZUN P.,
 RA MAGAZIN M., MILOUX B., MINTY C., RAMOND P., VITA N., LUPKER J.,
 RA SHIRE D., FERRARA P., CAPUT D.;
 RT "Molecular cloning of the MCP-3 chemokine gene and regulation of its
 RT expression.";
 RL EUR. CYTOKINE NETW. 4:99-110(1993).
 [4]
 RN SEQUENCE OF 30-99.
 RC TISSUE=OSTEOSARCOMA;
 RX MEDLINE: 92308855.
 RA VAN DAMME J., PROOST P., LENAERTS J.-P., OPDENAKKER G.;
 RT "Structural and functional identification of two human, tumor-derived
 RT monocyte chemotactic proteins (MCP-2 and MCP-3) belonging to the
 RT chemokine family.";
 RL J. EXP. MED. 176:59-65(1992).
 [5]
 RN STRUCTURE BY NMR, AND SUBUNIT.
 RX MEDLINE: 97053697.
 RA KIM K.-S., RAJARATHNAM K., CLARK-LEWIS I., SYKES B.D.;
 RT "Structural characterization of a monomeric chemokine: monocyte
 RT chemoattractant protein-3.";
 RL FEBS LETT. 395:277-282(1996).
 [6]
 RN STRUCTURE BY NMR.
 RX MEDLINE: 97263733.
 RA MEUNIER S., BERNASSAU J.-M., GUILLEMOT J.-C., FERRARA P., DARBON H.;
 RT "Determination of the three-dimensional structure of CC chemokine
 RT monocyte chemoattractant protein 3 by 1H two-dimensional NMR
 RT spectroscopy.";
 RL BIOCHEMISTRY 36:4412-4422(1997).
 CC -!- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES AND
 CC EOSINOPHILS, BUT NOT NEUTROPHILS. AUGMENTS MONOCYTE ANTI-TUMOR
 CC ACTIVITY. ALSO INDUCES THE RELEASE OF GELATINASE B. THIS PROTEIN
 CC CAN BIND HEPARIN.
 CC -!- SUBUNIT: MONOMER.
 CC -!- PTM: O-GLYCOSYLATED.
 CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
 CC C-C) (CHEMOKINE CC).

 CC This SWISS-PROT entry is copyright. It is produced through a collaboration

Matches 7; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

Db 90 VCTNPDKWVQ 100
| | : | | : | | |
Qy 2 VCADPSESQVQ 12

Search completed: Fri Feb 4 17:33:42 2000
Job time : 7 secs.

(TM)

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Title:
Description:
perfect Score:
Sequence: 1 QVCADPSESWQ 12
>US-09-150-813-44
(1-12) from US09150813.pep
91

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Post-processing: Minimum Match 0%
Listing first 45 summaries

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Database:
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      1:pir1 2:pir2 3:pir3 4:pir4

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

| Result No. | Score | Query Match | Length | DB | ID | Description | Pred. No. |
|------------|-------|-------------|--------|----|--------|-----------------------|-----------|
| 1 | 91 | 100.0 | 50 | 2 | C60407 | monocyte adherence-in | 4.73e-07 |
| 2 | 91 | 100.0 | 92 | 2 | A31767 | macrophage inflammato | 4.73e-07 |
| 3 | 88 | 96.7 | 92 | 2 | I46730 | immune activation | 2.11e-06 |
| 4 | 86 | 94.5 | 92 | 2 | A30574 | macrophage inflammato | 5.68e-06 |
| 5 | 86 | 94.5 | 93 | 2 | B35673 | LD78-beta protein pre | 5.68e-06 |
| 6 | 82 | 90.1 | 92 | 2 | I52322 | macrophage inflammato | 4.01e-05 |
| 7 | 77 | 84.6 | 120 | 2 | I48147 | monocyte chemoattract | 4.39e-04 |
| 8 | 76 | 83.5 | 92 | 2 | C30552 | macrophage inflammato | 7.04e-04 |
| 9 | 75 | 82.4 | 92 | 2 | A32393 | macrophage inflammato | 1.13e-03 |
| 10 | 75 | 82.4 | 109 | 2 | A34678 | monocyte chemotactic | 1.13e-03 |
| 11 | 74 | 81.3 | 120 | 2 | JF0177 | lymphocyte and monocy | 1.80e-03 |
| 12 | 73 | 80.2 | 99 | 2 | JC2417 | monocyte chemoattract | 2.85e-03 |
| 13 | 72 | 79.1 | 99 | 2 | A60299 | monocyte chemoattract | 4.53e-03 |
| 14 | 71 | 78.0 | 91 | 1 | A46539 | monocyte chemoattract | 7.16e-03 |
| 15 | 71 | 78.0 | 99 | 2 | JC5259 | monocyte chemoattract | 7.16e-03 |
| 16 | 71 | 78.0 | 99 | 2 | JC2136 | monocyte chemoattract | 7.16e-03 |
| 17 | 70 | 76.9 | 95 | 2 | JN0841 | interleukin-8 - dog | 1.13e-02 |
| 18 | 70 | 76.9 | 101 | 2 | I46997 | interleukin-8 - sheep | 1.13e-02 |
| 19 | 70 | 76.9 | 101 | 2 | S42496 | interleukin 8 - sheep | 1.13e-02 |
| 20 | 70 | 76.9 | 103 | 2 | A33096 | interleukin-8 precurs | 1.13e-02 |
| 21 | 70 | 76.9 | 103 | 2 | A44253 | alveolar macrophage c | 1.13e-02 |
| 22 | 70 | 76.9 | 148 | 2 | A30209 | PDGF-inducible JE gly | 1.13e-02 |
| 23 | 70 | 76.9 | 148 | 2 | S07723 | immediate-early serum | 1.13e-02 |

#journal Mol. Immunol. (1990) 27:1091-1102
#title Cloning and expression of a lymphocyte activation gene (LAG-1).
#cross-references MUID:91061800
#accession JH0319
#status translation not shown
#molecule_type DNA
#residues 1-92 ##label BAI
#cross-references GB:X53682; NID:g34217; PID:g34218
#experimental_source natural killer cell, strain CD3-CD2+, F5, 5I11ES
REFERENCE A40978
#authors Napolitano, M.; Modi, W.S.; Cevario, S.J.; Gnarra, J.R.; Seanez, H.N.; Leonard, W.J.
#journal J. Biol. Chem. (1991) 266:17531-17536
#title The gene encoding the Act-2 cytokine. Genomic structure, HTLV-I/Tax responsiveness of 5' upstream sequences, and chromosomal localization.
#cross-references MUID:91373378
#accession A40978
#molecule_type DNA
#residues 1-14,'S',16-69,'G',71-92 ##label NAP
#cross-references GB:M69201; NID:g178021
#note 15-Ala was also found
REFERENCE A31767
#authors Lipes, M.A.; Napolitano, M.; Jeang, K.T.; Chang, N.T.; Leonard, W.J.
#journal Proc. Natl. Acad. Sci. U.S.A. (1988) 85:9704-9708
#title Identification, cloning, and characterization of an immune activation gene.
#cross-references MUID:89071764
#accession A31767
#molecule_type mRNA
#residues 1-92 ##label LIP
#cross-references GB:J04130; NID:g178017; PID:g178018
REFERENCE A37411
#authors Chang, H.C.; Reinherz, E.L.
#journal Eur. J. Immunol. (1989) 19:1045-1051
#title Isolation and characterization of a cDNA encoding a putative cytokine which is induced by stimulation via the CD2 structure on human T lymphocytes.
#cross-references MUID:89325421
#accession A37411
#molecule_type mRNA
#residues 1-92 ##label CHA
#cross-references GB:X16166; NID:g32035; PID:g32036
REFERENCE A30574
#authors Zipfel, P.F.; Balke, J.; Irving, S.G.; Kelly, K.; Siebenlist, U.
#journal J. Immunol. (1989) 142:1582-1590
#title Mitogenic activation of human T cells induces two closely related genes which share structural similarities with a new family of secreted factors.
#cross-references MUID:89140347
#accession B30574
#molecule_type mRNA
#residues 1-19,'L',21-92 ##label ZIP
#cross-references GB:M25316; NID:g602434; PID:g602455
REFERENCE A45817
#authors Miller, M.D.; Hata, S.; Malefyt, R.D.W.; Krangel, M.S.
#journal J. Immunol. (1989) 143:2907-2916
#title A novel polypeptide secreted by activated human T lymphocytes.
#cross-references MUID:90038522
#accession B45817
#molecule_type mRNA
#residues 7-55,'I',57-79,'T',81-92 ##label MIL
#cross-references GB:M57503; NID:g339726; PID:g339727
REFERENCE A30552
#authors Brown, K.D.; Zurawski, S.M.; Mosmann, T.R.; Zurawski, G.
#journal J. Immunol. (1989) 142:679-687
#title A family of small inducible proteins secreted by leukocytes are members of a new superfamily that includes leukocyte and fibroblast-derived inflammatory agents, growth factors,

and indicators of various activation processes.
#cross-references MUID:89093958
#accession D30552
#molecule_type mRNA
#residues 1-39,'REASS',46-92 ##label BRO
#cross-references GB:M23502; NID:g533212; PID:g533213
REFERENCE A52206
#authors Clore, G.M.; Lodi, P.J.; Garrett, D.S.; Gronenborn, A.M.
#submission submitted to the Brookhaven Protein Data Bank, January 1994
#cross-references PDB:1HUM
#contents annotation; conformation and disulfide bond assignments by (L)H-NMR, residues 24-92
COMMENT This protein is secreted by activated lymphocytes and monocytes. It is bound by chemokine (C-C) receptor 5 (see PIR:A43113) and receptor 1 (see PIR:A45177).
GENETICS
#gene GDB:LAG1
#cross-references GDB:127451; OMIM:153335
#map_position 17q21-17q21
#introns 26/1; 64/2
CLASSIFICATION #superfamily macrophage inflammatory protein
KEYWORDS chemotaxis; cytokine; inflammation
FEATURE
1-23 #domain signal sequence #status predicted #label SIG\N
24-92 #product macrophage inflammatory protein 1-beta #status experimental #label MAT\N
34-58,35-74 #disulfide_bonds #status experimental
SUMMARY #length 92 #molecular_weight 10212 #checksum 7597
Query Match 100.0%; Score 91; DB 1; Length 92;
Best Local Similarity 100.0%; Pred. No. 4.73e-07;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Db 72 QVCADPSESQVQ 83
Qy 1 QVCADPSESQVQ 12
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RESULT 3
ENTRY I46730 #type complete
TITLE immune activation gene 2 - rabbit
ORGANISM #formal_name Oryctolagus cuniculus #common_name domestic rabbit
DATE 14-Feb-1997 #sequence_revision 14-Feb-1997 #text_change 09-May-1997
ACCESSIONS I46730
REFERENCE I46730
#authors Mori, S.; Goto, K.; Goto, F.; Mutakami, K.; Ohkawara, S.; Yoshinaga, M.
#journal Int. Immunol. (1994) 6:149-156
#title Dynamic changes in mRNA expression of neutrophils during the course of acute inflammation in rabbits.
#cross-references MUID:94198229
#accession I46730
#status preliminary; translated from GB/EMBL/DBJ
#molecule_type mRNA
#residues 1-92 ##label MOR
#cross-references GB:D17402; NID:g599577; PID:g599578
CLASSIFICATION #superfamily macrophage inflammatory protein
SUMMARY #length 92 #molecular_weight 10066 #checksum 5637
Query Match 96.7%; Score 88; DB 2; Length 92;
Best Local Similarity 91.7%; Pred. No. 2.11e-06;
Matches 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
Db 72 QVCANPSESQVQ 83
Qy 1 QVCADPSESQVQ 12
|||||
RESULT 4
ENTRY A30574 #type complete
TITLE macrophage inflammatory protein 1-alpha precursor - human


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ALTERNATE_NAMES LD78-alpha protein precursor; lymphocyte tumor
promoter-induced protein; macrophage inflammatory protein
homolog GOS19-1; Mip-1alpha; PAR464; small inducible
cytokine A3; T-cell activation protein 1
ORGANISM #formal_name Homo sapiens #common_name man
DATE 03-Aug-1992 #sequence_revision 03-Aug-1992 #text_change
29-May-1998
ACCESSIONS A35673; A30574; A30412; A24198; A30908
REFERENCE A35673
#authors Nakao, M.; Nomiya, H.; Shimada, K.
#journal Mol. Cell. Biol. (1990) 10:3646-3658
#title Structures of human genes coding for cytokine LD78 and their
expression.
#cross-references MUID:90287155
#accession A35673
#molecule_type DNA
#residues 1-92 #label NAK
##cross-references GB:D90144; NID:g219905; PID:d1014875; PID:g219906
REFERENCE A30574
#authors Zipfel, P.F.; Balke, J.; Irving, S.G.; Kelly, K.; Siebenlist,
U.
#journal J. Immunol. (1989) 142:1582-1590
#title Mitogenic activation of human T cells induces two closely
related genes which share structural similarities with a
new family of secreted factors.
#cross-references MUID:89140347
#accession A30574
#molecule_type mRNA
#residues 1-92 #label ZIP
##cross-references GB:M25315; NID:g602452; PID:g602453
REFERENCE A30412
#authors Blum, S.; Forsdyke, R.E.; Forsdyke, D.R.
#journal DNA Cell Biol. (1990) 9:589-602
#title Three human homologs of a murine gene encoding an inhibitor
of stem cell proliferation.
#cross-references MUID:91103879
#accession A30412
#molecule_type mRNA
#residues 1-92 #label BLU
##cross-references GB:M24110; GB:M32338; NID:g182848; PID:g182849
REFERENCE A30157
#authors Irving, S.G.; Zipfel, P.F.; Balke, J.; McBride, O.W.; Morton,
C.C.; Burd, P.R.; Siebenlist, U.; Kelly, K.
#journal Nucleic Acids Res. (1990) 18:3261-3270
#title Two inflammatory mediator cytokine genes are closely linked
and variably amplified on chromosome 17q.
#cross-references MUID:90287702
#accession A30157
#status preliminary
#molecule_type mRNA
#residues 1-93 #label IRV
##cross-references EMBL:X52149; NID:g34750; PID:g296666
COMMENT This protein is a member of a "small inducible" or "activation
specific" gene family, is likely to be an early-acting
interleukin, and is the product of a putative G0/G1 switch gene.
GENETICS
#gene GDB:SCYA4
##cross-references GDB:120369; OMIM:182284
#map_position 17q11-17q21
#introns 26/1; 64/2
CLASSIFICATION #superfamily macrophage inflammatory protein
FEATURE
1-22
23-93
SUMMARY
#domain signal sequence #status predicted #label SIG\
#product LD78-beta protein #status predicted #label MAT
#length 93 #molecular-weight 10161 #checksum 7784
Query Match 94.5%; Score 86; DB 2: Length 93;
Best Local Similarity 91.7%; Pred. No. 5.68e-06;
Matches 11; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
Db 71 QVCADPSEEWQ 82
Oy 1 QVCADPSEEWQ 12
RESULT 5
ENTRY B35673 #type complete
TITLE LD78-beta protein precursor - human

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ALTERNATE_NAMES macrophage inflammatory protein homolog GOS19-2; small
inducible cytokine A4
ORGANISM #formal_name Homo sapiens #common_name man
DATE 28-Sep-1990 #sequence_revision 28-Sep-1990 #text_change
24-Sep-1998
ACCESSIONS B35673; B30412; S10157; B30908
REFERENCE A35673
#authors Nakao, M.; Nomiya, H.; Shimada, K.
#journal Mol. Cell. Biol. (1990) 10:3646-3658
#title Structures of human genes coding for cytokine LD78 and their
expression.
#cross-references MUID:90287155
#accession B35673
#status preliminary
#molecule_type DNA
#residues 1-93 #label NAK
##cross-references GB:D90145; NID:g219907; PID:d1014876; PID:g219908
REFERENCE A30412
#authors Blum, S.; Forsdyke, R.E.; Forsdyke, D.R.
#journal DNA Cell Biol. (1990) 9:589-602
#title Three human homologs of a murine gene encoding an inhibitor
of stem cell proliferation.
#cross-references MUID:91103879
#accession B30412
#status preliminary; not compared with conceptual translation
#molecule_type DNA
#residues 1-93 #label BLU
##cross-references GB:M24110; GB:M32338; NID:g182848; PID:g182849
REFERENCE S10157
#authors Irving, S.G.; Zipfel, P.F.; Balke, J.; McBride, O.W.; Morton,
C.C.; Burd, P.R.; Siebenlist, U.; Kelly, K.
#journal Nucleic Acids Res. (1990) 18:3261-3270
#title Two inflammatory mediator cytokine genes are closely linked
and variably amplified on chromosome 17q.
#cross-references MUID:90287702
#accession S10157
#status preliminary
#molecule_type mRNA
#residues 1-93 #label IRV
##cross-references EMBL:X52149; NID:g34750; PID:g296666
COMMENT This protein is a member of a "small inducible" or "activation
specific" gene family, is likely to be an early-acting
interleukin, and is the product of a putative G0/G1 switch gene.
GENETICS
#gene GDB:SCYA4
##cross-references GDB:120369; OMIM:182284
#map_position 17q11-17q21
#introns 26/1; 64/2
CLASSIFICATION #superfamily macrophage inflammatory protein
FEATURE
1-22
23-93
SUMMARY
#domain signal sequence #status predicted #label SIG\
#product LD78-beta protein #status predicted #label MAT
#length 93 #molecular-weight 10161 #checksum 7784
Query Match 94.5%; Score 86; DB 2: Length 93;
Best Local Similarity 91.7%; Pred. No. 5.68e-06;
Matches 11; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
Db 72 QVCADPSEEWQ 83
Oy 1 QVCADPSEEWQ 12
RESULT 6
ENTRY I52322 #type complete
TITLE macrophage inflammatory protein-1alpha - rat
ORGANISM #formal_name Rattus norvegicus #common_name Norway rat
DATE 29-May-1998 #sequence_revision 29-May-1998 #text_change
02-Jul-1998
ACCESSIONS I52322
REFERENCE I52322
#authors Shi, M.M.; Godleski, J.J.; Paulauskis, J.D.

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US-09-150-813-44.rpr

Sat Feb 5 12:04:33 2000

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#journal Biochem. Biophys. Res. Commun. (1995) 211:289-295
#title Molecular cloning and posttranscriptional regulation of
macrophage inflammatory protein-1 alpha in alveolar
macrophages.
#cross-references MUID:95298037
#accession J52322
#status preliminary; translated from GB/EMBL/DBJ
#molecule_type mRNA
#residues 1-92 #label RES
#cross-references EMBL:U22414; NID:q790632; PID:q790633
CLASSIFICATION #superfamily macrophage inflammatory protein
SUMMARY #length 92 #molecular-weight 10335 #checksum 3184

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Best Local Similarity 75.0%; Pred. No. 4.01e-05;
Matches 9; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 71 QICADPKETWVQ 82
1:||||| 1:||||
QY 1 QVCADPSESWSVQ 12

RESULT 7
ENTRY I48147 #type complete
TITLE monocyte chemoattractant protein-1 - guinea pig
ORGANISM #formal_name Cavia porcellus #common_name guinea pig
DATE 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change
09-May-1997
ACCESSIONS I48147
REFERENCE Yoshimura, T. (1993) 150:5025-5032
#authors J. Immunol. (1993) 150:5025-5032
#journal cDNA cloning of guinea pig monocyte chemoattractant protein-1
#title and expression of the recombinant protein.
#cross-references MUID:93267104
#accession I48147
#status preliminary; translated from GB/EMBL/DBJ
#molecule_type mRNA
#residues 1-120 #label RES
#cross-references GB:L04985; NID:g349820; PID:g349821
GENETICS MCP-1
CLASSIFICATION #superfamily macrophage inflammatory protein
SUMMARY #length 120 #molecular-weight 13741 #checksum 9252

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Best Local Similarity 66.7%; Pred. No. 4.39e-04;
Matches 8; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

Db 71 EVCADPTOKWVQ 82
1:||||| 1:||||
QY 1 QVCADPSESWSVQ 12

RESULT 8
ENTRY C30552 #type complete
TITLE macrophage inflammatory protein 1-beta precursor - mouse
ALTERNATE_NAMES H400; SIS gamma; T-cell activation protein gamma
ORGANISM #formal_name Mus musculus #common_name house mouse
DATE 28-Aug-1989 #sequence_revision 28-Aug-1989 #text_change
13-Nov-1998
ACCESSIONS C30552; J52322; PS0304; S22042
REFERENCE Brown, K.D.; Zurawski, S.M.; Mosmann, T.R.; Zurawski, G.
#authors J. Immunol. (1989) 142:679-687
#journal A family of small inducible proteins secreted by leukocytes
#title are members of a new superfamily that includes leukocyte
and fibroblast-derived inflammatory agents, growth factors,
and indicators of various activation processes.
#cross-references MUID:89093958
#accession C30552
#molecule_type mRNA
#residues 1-92 #label BRO

#cross-references GB:M23503; NID:g533244; PID:g533245
REFERENCE J50088
#authors Sherry, B.; Tekamp-Olson, P.; Gallegos, C.; Bauer, D.;
Davatelis, G.; Wolpe, S.D.; Maslarz, F.; Coit, D.; Cerami,
A.
J. Exp. Med. (1988) 168:2251-2259
#journal Resolution of the two components of macrophage inflammatory
#title protein 1, and cloning and characterization of one of those
components, macrophage inflammatory protein 1 beta.
#cross-references MUID:89067830
#accession J50088
#molecule_type mRNA
#residues 1-92 #label SHE
#cross-references GB:M35590; NID:gl99696; PID:gl99697
#accession PS0304
#molecule_type protein
#residues 24-33, 'XX', '36', 'X', '38 #label SH2
REFERENCE S22042
#authors Daubersies, P.; Lepretre, F.; Baillieul, B.; Grove, M.;
Pragnell, I.; Plumb, M.
#submission submitted to the EMBL Data Library, October 1991
#description Sequence of the murine macrophage inflammatory protein 1b
gene.
#accession S22042
#status preliminary
#molecule_type DNA
#residues 1-92 #label DAU
#cross-references EMBL:X62502; NID:g53126; PID:g53127
COMMENT This protein is a monokine.
GENETICS 26/1; 64/2
#introns #superfamily macrophage inflammatory protein
CLASSIFICATION glycoprotein
KEYWORDS #domain signal sequence #status predicted #label SIG\
FEATURE #product macrophage inflammatory protein 1-beta #status
1-23 experimental #label MAT\
24-92 #binding site carbohydrate (Asn) (covalent) #status
76 predicted
SUMMARY #length 92 #molecular-weight 10168 #checksum 7516

Query Match 83.5%; Score 76; DB 2; Length 92;
Best Local Similarity 72.7%; Pred. No. 7.04e-04;
Matches 8; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

Db 72 QICANPSEPVV 82
1:||||| 1:||||
QY 1 QVCADPSESWSV 11

RESULT 9
ENTRY A32393 #type complete
TITLE macrophage inflammatory protein-1-alpha precursor - mouse
ALTERNATE_NAMES heparin-binding chemotaxis protein; L2G25B protein;
SCI/MIP-1a; SIS alpha; stem cell inhibitor/macrophage
inflammatory protein 1-alpha; T-cell activation protein
alpha; TY5
ORGANISM #formal_name Mus musculus #common_name house mouse
DATE 17-Jul-1992 #sequence_revision 17-Jul-1992 #text_change
08-Sep-1997
ACCESSIONS S11685; A32393; S04533; A53885; A30552; PS0303; A27596;
I56104
REFERENCE S11685
#authors Grove, M.; Lowe, S.; Graham, G.; Pragnell, I.; Plumb, M.
#journal Nucleic Acids Res. (1990) 18:5561
#title Sequence of the murine haemopoietic stem cell
inhibitor/macrophage inflammatory protein 1-alpha gene.
#cross-references MUID:91016858
#accession S11685
#molecule_type DNA
#residues 1-92 #label GRO
#cross-references EMBL:X53372; NID:g54062; PID:g297531
#note the authors' translation of the nucleotide sequence

```

REFERENCE A32393 differs at several positions from the sequence given

#authors Kwon, B.S.; Weissman, S.M.
#journal Proc. Natl. Acad. Sci. U.S.A. (1989) 86:1963-1967
#title cDNA sequence of two inducible T-cell genes.
#cross-references MUID:89184547
#accession A32393
##molecule_type mRNA
##residues 1-92 ##label KWO
##cross-references GB:04491; NID:g201524; PID:g201525

REFERENCE S04533
#authors Davatelis, G.; Tekamp-Olson, P.; Wolpe, S.D.; Hermesen, K.; Luedke, C.; Gallegos, C.; Coit, D.; Merryweather, J.; Cerami, A.
#journal J. Exp. Med. (1988) 167:1939-1944
#title Cloning and characterization of a cDNA for murine macrophage inflammatory protein (MIP), a novel monokine with inflammatory and chemokinetic properties.
#cross-references MUID:88258380
#accession S04533
##molecule_type mRNA
##residues 1-48,'E' 50-90,'I',92 ##label DA2
##cross-references EMBL:X12531
##note the authors translated the codon GAG for residue 49 as Asp and Arg for residue 91 as Asn
##note the sequence has been corrected in reference A53885

REFERENCE A53885
#authors Davatelis, G.; Tekamp-Olson, P.; Wolpe, S.D.; Hermesen, K.; Luedke, C.; Gallegos, C.; Coit, D.; Merryweather, J.; Cerami, A.
#journal J. Exp. Med. (1989) 170:2189
#contents erratum
#accession A53885
##molecule_type mRNA
##residues 1-92 ##label DAV
##cross-references EMBL:X12531; NID:g53122; PID:g53123

REFERENCE A30552
#authors Brown, K.D.; Zurawski, S.M.; Mosmann, T.R.; Zurawski, G.
#journal J. Immunol. (1989) 142:679-687
#title A family of small inducible proteins secreted by leukocytes are members of a new superfamily that includes leukocytes and fibroblast-derived inflammatory agents, growth factors, and indicators of various activation processes.
#cross-references MUID:89093958
#accession A30552
##molecule_type mRNA
##residues 1-21,'L',23-61,'A',63-92 ##label BRO
##cross-references GB:M23447; NID:g533240; PID:g533241

REFERENCE JL0088
#authors Sherry, B.; Tekamp-Olson, P.; Gallegos, C.; Bauer, D.; Davatelis, G.; Wolpe, S.D.; Maslarsz, F.; Coit, D.; Cerami, A.
#journal J. Exp. Med. (1988) 168:2251-2259
#title Resolution of the two components of macrophage inflammatory protein 1, and cloning and characterization of one of those components, macrophage inflammatory protein 1 beta.
#cross-references MUID:89067830
#accession PS0303
##molecule_type mRNA
##residues 24-33,'XX',36-54 ##label SHE
#authors A27596

REFERENCE S04533
#authors Wolpe, S.D.; Davatelis, G.; Sherry, B.; Beutler, B.; Hesse, D.G.; Nguyen, H.T.; Moldawer, L.L.; Nathan, C.F.; Lowry, S.F.; Cerami, A.
#journal J. Exp. Med. (1988) 167:570-581
#title Macrophages secrete a novel heparin-binding protein with inflammatory and neutrophil chemokinetic properties.
#cross-references MUID:88154745
#accession A27596
##molecule_type protein
##residues 24-33,'XX',36-42 ##label WOL
##note 26-Met, 30-Pro, and 39-Thr were also found
#accession I56104

#authors Widmer, U.; Yang, Z.; van Deventer, S.; Manogue, K.R.; Sherry, B.; Cerami, A.
#journal J. Immunol. (1991) 146:4031-4040
#title Genomic structure of murine macrophage inflammatory protein-1-alpha and conservation of potential regulatory sequences with a human homolog, LD78.
#cross-references MUID:91237116
#accession I56104
##status preliminary; translated from GB/EMBL/DBJ
##molecule_type DNA
##residues 1-92 ##label RES
##cross-references GB:M73061; NID:g199694; PID:g199695
#COMMENT This protein is a monokine.
#GENETICS 23/3; 26/1; 63/2
#intron #superfamily macrophage inflammatory protein heparin binding
#CLASSIFICATION
#KEYWORDS
#FEATURE 1-23
24-92
#domain signal sequence #status predicted #label SIG
#product macrophage inflammatory protein #status experimental #label MAT
#length 92 #molecular-weight 10345 #checksum 5009

SUMMARY Query Match 82.4%; Score 75; DB 2; Length 92;
Best Local Similarity 66.7%; Pred. No. 1.13e-03;
Matches 8; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

Db 71 QICADSKETWVQ 82
QY 1 QVCADPSESQVQ 12
I:||||:|:||||
QVCADPSESQVQ 12

RESULT 10
ENTRY A54678 #type complete
TITLE monocyte chemoattractant protein 3 precursor - human
ALTERNATE_NAMES monocyte chemoattractant protein MCP-3
ORGANISM #formal_name Homo sapiens #common_name man
DATE 28-Oct-1994 #sequence_revision 28-Oct-1994 #text_change 17-Mar-1999
ACCESSION A54678; JCI478; S32222
REFERENCE A54678
#authors Opdenakker, G.; Fiten, P.; Nys, G.; Froyen, G.; Van Roy, N.; Speleman, F.; Laureys, G.; Van Damme, J.
#journal Genomics (1994) 21:403-408
#title The human MCP-3 gene (SCYA7): cloning, sequence analysis, and assignment to the C-C chemokine gene cluster on chromosome 17q11.2-q12.
#cross-references MUID:94375065
#accession A54678
##molecule_type DNA
##residues 1-109 ##label OPD
##cross-references GB:X72309

REFERENCE JCI478
#authors Opdenakker, G.; Froyen, G.; Fiten, P.; Proost, P.; Van Damme, J.
#journal Biochem. Biophys. Res. Commun. (1993) 191:535-542
#title Human monocyte chemoattractant protein-3 (MCP-3): Molecular cloning of the cDNA and comparison with other chemokines.
#cross-references MUID:93213290
#accession JCI478
##molecule_type mRNA
##residues 1-109 ##label OP2
#accession S32222
#authors Minty, A.; Chalon, P.; Guillemot, J.C.; Kaghad, M.; Liauzun, P.; Magazin, M.; Miloux, B.; Minty, C.; Ramond, P.; Vita, N.; Lupker, J.; Shire, D.; Ferrara, P.; Caput, D.
#submission Submitted to the EMBL Data Library, March 1993
#description Molecular cloning of MCP-3: a human monocyte-derived monocyte chemoattractant protein.
#accession S32222
##molecule_type mRNA
##residues 1-109 ##label MIN
##cross-references EMBL:X71087; NID:g288396; PID:g288397

COMMENT This protein induces proteinase secretion and chemotaxis by macrophages and monocytes.

GENETICS
#gene GDB:SCYA7; SCYA6; MCP-3
#map_position 17q11-17q12
#introns 36/1; 75/2
CLASSIFICATION #superfamily macrophage inflammatory protein
KEYWORDS cytokine; glycoprotein; inflammation
FEATURE
1-33 #domain signal sequence #status predicted #label SIG
34-109 #product monocyte chemotactic protein 3 #status
#predicted #label MAT
39 #binding_site carbohydrate (Asn) (covalent) #status
predicted
SUMMARY #length 109 #molecular-weight 12356 #checksum 1535

Query Match 82.4%; Score 75; DB 2; Length 109;
Best Local Similarity 58.3%; Pred. No. 1.13e-03;
Matches 7; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 83 ETCADPTQKWQ 94
:||||: |||
Qy 1 QVCADPSESQWQ 12

RESULT 11
ENTRY JEO177 #type complete
TITLE lymphocyte and monocyte chemoattractant CC chemokine - human
ORGANISM #formal_name Homo sapiens #common_name man
DATE 10-Jul-1998 #sequence_revision 10-Jul-1998 #text_change
17-Mar-1999
ACCESSIONS JEO177
REFERENCE YOUN, B.S.; Zhang, S.; Broxmeyer, H.E.; Antol, K.; Fraser Jr., M.J.; Hangoc, G.; Kwon, B.S.
#journal Biochem. Biophys. Res. Commun. (1998) 247:217-222
#title Isolation and characterization of LMC, a novel lymphocyte and monocyte chemoattractant human CC chemokine, with myelosuppressive activity.
#cross-references MUID:98308096
#accession JEO177
#molecule_type mRNA
#residues 1-120 #label YCQ
SUMMARY #length 120 #molecular-weight 13600 #checksum 230

Query Match 81.3%; Score 74; DB 2; Length 120;
Best Local Similarity 50.0%; Pred. No. 1.80e-03;
Matches 6; Conservative 5; Mismatches 1; Indels 0; Gaps 0;

Db 74 EVCTNPDDWQ 85
:||||: |||
Qy 1 QVCADPSESQWQ 12

RESULT 12
ENTRY JC2417 #type complete
TITLE monocyte chemoattractant protein-2 precursor - pig
ORGANISM #formal_name Sus scrofa domestica #common_name domestic pig
DATE 24-Feb-1995 #sequence_revision 24-Feb-1995 #text_change
17-Mar-1999
ACCESSIONS JC2417
REFERENCE Hosang, K.; Knoke, I.; Klaudiny, J.; Wempe, F.; Wuttke, W.; Scheit, K.H.
#journal Biochem. Biophys. Res. Commun. (1994) 205:148-153
#title porcine luteal cells express monocyte chemoattractant protein-2 (MCP-2): Analysis by cDNA cloning and northern analysis.
#cross-references MUID:95091716
#accession JC2417
#molecule_type mRNA
#residues 1-99 #label HOS

##experimental_source corpus luteum
CLASSIFICATION #superfamily macrophage inflammatory protein
FEATURE
1-23 #domain signal sequence #status predicted #label SIG
24-99 #product monocyte chemoattractant protein-2 #status
#predicted #label MAT
SUMMARY #length 99 #molecular-weight 10903 #checksum 7556
Query Match 80.2%; Score 73; DB 2; Length 99;
Best Local Similarity 66.7%; Pred. No. 2.85e-03;
Matches 8; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Db 73 EVCADPQOKWQ 84
:||||: |||
Qy 1 QVCADPSESQWQ 12

RESULT 13
ENTRY A60299 #type complete
TITLE monocyte chemoattractant protein 1 precursor - human
ALTERNATE_NAMES GDCF-1; glioma-derived monocyte chemotactic factor 1; MCAF; MCP-1; monocyte chemotactic factor 1; monocyte secretory protein; tumor-derived chemotactic factor
CONTAINS glioma-derived chemotactic factor 2 (GDCF-2)
ORGANISM #formal_name Homo sapiens #common_name man
DATE 20-Feb-1993 #sequence_revision 20-Feb-1993 #text_change
20-Mar-1998
ACCESSIONS A35474; A33476; S03339; I51841; A60299; A32300; A32396;
A34561; I57488; JC1096
REFERENCE SHY, Y.J.; Li, Y.S.; Kolattukudy, P.E.
#authors Biochem. Biophys. Res. Commun. (1990) 169:346-351
#journal Structure of human monocyte chemotactic protein gene and its regulation by TPA.
#title
#cross-references MUID:90290466
#accession A35474
#molecule_type DNA
#residues 1-99 #label SHY
#cross-references GB:M37719; NID:g187447; PID:g487124

REFERENCE Rollins, B.J.; Stier, P.; Ernst, T.; Wong, G.G.
#authors Mol. Cell. Biol. (1989) 9:4687-4695
#journal The human homolog of the JE gene encodes a monocyte secretory protein.
#title
#cross-references MUID:90097880
#accession A33476
#molecule_type mRNA
#residues 1-99 #label ROL
#cross-references GB:M30816; GB:M31625; GB:M31626; NID:g188701; PID:g386961

REFERENCE S03339
#authors Yoshimura, T.; Yuhki, N.; Moore, S.K.; Appella, E.; Lerman, M.I.; Leonard, E.J.
#journal FEBS Lett. (1989) 244:487-493
#title Human monocyte chemoattractant protein-1 (MCP-1). Full-length cDNA cloning, expression in mitogen-stimulated blood mononuclear leukocytes, and sequence similarity to mouse competence gene JE.
#cross-references MUID:89153605
#accession S03339
#status not compared with conceptual translation
#molecule_type mRNA
#residues 1-99 #label YOS
#cross-references GB:X14768; NID:g34513; PID:g34514
#experimental_source glioma cell line U-105MG

REFERENCE I51841
#authors Yoshimura, T.; Leonard, E.J.
#journal Adv. Exp. Med. Biol. (1991) 305:47-56
#title Human monocyte chemoattractant protein-1 (MCP-1).
#cross-references MUID:92095166
#accession I51841
#status preliminary; translated from GB/EMBL/DDBJ
#molecule_type mRNA

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##residues 1-99 ##label Y02
##cross-references GB:S71513; NID:g240867; PID:g240868
REFERENCE
#authors Botazzi, B.; Colotta, F.; Sica, A.; Nobili, N.; Mantovani, A.
#journal Int. J. Cancer (1990) 45:795-797
#title A chemotactant expressed in human sarcoma cells (tumor-derived chemotactic factor, TDCF) is identical to monocyte chemoattractant protein-1/monocyte chemotactic and activating factor (MCP-1/MCAF).
#accession A60299
##status not compared with conceptual translation
##molecule_type mRNA
##residues 1-99 ##label BOT
REFERENCE
#authors Furutani, Y.; Nomura, H.; Notake, M.; Oyama, Y.; Fukui, T.; Yamada, M.; Larsen, C.G.; Oppenheim, J.J.; Matsushima, K.; Blochem. Biophys. Res. Commun. (1989) 159:249-255
#journal Cloning and sequencing of the cDNA for human monocyte chemotactic and activating factor (MCAF).
#title #cross-references MUID:89165862
#accession A32300
##status not compared with conceptual translation
##molecule_type mRNA
##residues 1-99 ##label FUR
##cross-references GB:M24545; NID:gl87434; PID:g307163
REFERENCE
#authors Robinson, E.A.; Yoshimura, T.; Leonard, E.J.; Tanaka, S.; Griffin, P.R.; Shabanowitz, J.; Hunt, D.F.; Appella, E.
#journal Proc. Natl. Acad. Sci. U.S.A. (1989) 86:1850-1854
#title Complete amino acid sequence of a human monocyte chemoattractant, a putative mediator of cellular immune reactions.
#cross-references MUID:89184525
#accession A32396
##molecule_type protein
##residues 'X', 25-99 ##label ROB
REFERENCE
#authors Decock, B.; Conings, R.; Lenaerts, J.P.; Billiau, A.; Van Damme, J.
#journal Biochem. Biophys. Res. Commun. (1990) 167:904-909
#title Identification of the monocyte chemotactic protein from human osteosarcoma cells and monocytes: detection of a novel N-terminally processed form.
#cross-references MUID:90211336
#accession A34561
##molecule_type protein
##residues 29-33, 'XX', 36-52; 82-92 ##label DEC
REFERENCE
#authors Li, Y.S.; Shyy, Y.J.; Wright, J.G.; Valente, A.J.; Cornhill, J.F.; Kolattukudy, P.E.
#journal Mol. Cell. Biochem. (1993) 126:61-68
#title The expression of monocyte chemotactic protein (MCP-1) in human vascular endothelium in vitro and in vivo.
#cross-references MUID:94150478
#accession I57488
##status translated from GB/EMBL/DBJ
##molecule_type mRNA
##residues 1-99 ##label LIY
##cross-references GB:S69738; NID:g545464; PID:g545465
REFERENCE
#authors Ye, Q.N.; Su, G.F.; Yuan, Y.; Huang, C.F.
#journal Chinese J. Microbiol. Immunol. (1994) 14:29-32
#title The PCR, cloning and sequencing of human monocyte chemoattractant protein-1 (MCP-1) gene.
#accession JCI096
##molecule_type mRNA
##residues 24-28, 'Q', 30-99 ##label YEQ
GENETICS
#gene GDB:SCYA2
##cross-references GDB:125279; OMIM:158105
#map_position 17q11.2-17q12
CLASSIFICATION
#superfamily macrophage inflammatory protein

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KEYWORDS
FEATURE
1-23
24-99
29-99
24
37
SUMMARY
Query Match 79.13; Score 72; DB 2; Length 99;
Best Local Similarity 58.3%; Pred. No. 4.53e-03;
Matches 7; Conservative 3; Mismatches 2; Indels 0; Gaps 0;
Db 73 EICADPKQKVVQ 84
QY 1 QVCADPSESVMQ 12
RESULT 14
ENTRY
TITLE monocyte chemoattractant cytokine RANTES precursor - mouse
ALTERNATE_NAMES MuRantes
ORGANISM Mus musculus
#formal_name Mus musculus #common_name house mouse
DATE 18-Jun-1993 #sequence_revision 16-Aug-1996 #text_change 22-Jan-1999
ACCESSIONS I48875; A46539; I48654; I56970
REFERENCE
#authors Danoff, T.M.; Lalley, P.A.; Chang, Y.S.; Heeger, P.S.; Neilson, E.G.
#journal J. Immunol. (1994) 152:1182-1189
#title Cloning, genomic organization, and chromosomal localization of the Scv5 gene encoding the murine chemokine RANTES.
#cross-references MUID:94132613
#accession I48875
##status preliminary; translated from GB/EMBL/DBJ
##molecule_type DNA
##residues_type 1-91 ##label DAN
##cross-references EMBL:U02298; NID:g460090; PID:g460091
REFERENCE
#authors Schall, T.J.; Simpson, N.J.; Mak, J.Y.
#journal Eur. J. Immunol. (1992) 22:1477-1481
#title Molecular cloning and expression of the murine RANTES cytokine: structural and functional conservation between mouse and man.
#cross-references MUID:92289805
#accession A46539
##molecule_type mRNA
##residues 1-18, 'A', 20-91 ##label SCH
##cross-references GB:S37648; NID:g250207; PID:g250208
#experimental_source macrophage cell line PU5-1.8
#note sequence extracted from NCBI backbone (NCBI:106768, NCBIP:106770)
REFERENCE
I48654
#authors Shin, H.S.; Drysdale, B.E.; Shin, M.L.; Noble, P.W.; Fisher, S.N.; Paznekas, W.A.
#journal Mol. Cell. Biol. (1994) 14:2914-2925
#title Definition of a lipopolysaccharide-responsive element in the 5'-flanking regions of MuRantes and crg-2.
#cross-references MUID:94217689
#accession I48654
##status translation not shown; translated from GB/EMBL/DBJ
##molecule_type DNA
##residues 1-91 ##label SHI
##cross-references EMBL:X70675; NID:g475205; PID:g475206
REFERENCE
#authors Neilson, E.G.; Krensky, A.
#journal Kidney Int. (1992) 41:220-225
#title Isolation and characterization of cDNA from renal tubular epithelium encoding murine Rantes: A small intercrine from

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```

cytokine; glycoprotein; inflammation; pyroglutamic acid
#domain signal sequence #status predicted #label SIC\
#product monocyte chemoattractant protein 1 #status experimental #label MAT\
#product monocyte chemoattractant protein 1, short form #status experimental #label MAT2\
#modified_site pyrrolidone carboxylic acid (Gln) (in mature form) #status experimental\
#binding_site carbohydrate (Asn) (covalent) #status predicted
#length 99 #molecular-weight 11025 #checksum 7984

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Query Match 79.13; Score 72; DB 2; Length 99;
Best Local Similarity 58.3%; Pred. No. 4.53e-03;
Matches 7; Conservative 3; Mismatches 2; Indels 0; Gaps 0;
Db 73 EICADPKQKVVQ 84
QY 1 QVCADPSESVMQ 12

```

```

RESULT 14
ENTRY
TITLE monocyte chemoattractant cytokine RANTES precursor - mouse
ALTERNATE_NAMES MuRantes
ORGANISM Mus musculus
#formal_name Mus musculus #common_name house mouse
DATE 18-Jun-1993 #sequence_revision 16-Aug-1996 #text_change 22-Jan-1999
ACCESSIONS I48875; A46539; I48654; I56970
REFERENCE
#authors Danoff, T.M.; Lalley, P.A.; Chang, Y.S.; Heeger, P.S.; Neilson, E.G.
#journal J. Immunol. (1994) 152:1182-1189
#title Cloning, genomic organization, and chromosomal localization of the Scv5 gene encoding the murine chemokine RANTES.
#cross-references MUID:94132613
#accession I48875
##status preliminary; translated from GB/EMBL/DBJ
##molecule_type DNA
##residues_type 1-91 ##label DAN
##cross-references EMBL:U02298; NID:g460090; PID:g460091
REFERENCE
#authors Schall, T.J.; Simpson, N.J.; Mak, J.Y.
#journal Eur. J. Immunol. (1992) 22:1477-1481
#title Molecular cloning and expression of the murine RANTES cytokine: structural and functional conservation between mouse and man.
#cross-references MUID:92289805
#accession A46539
##molecule_type mRNA
##residues 1-18, 'A', 20-91 ##label SCH
##cross-references GB:S37648; NID:g250207; PID:g250208
#experimental_source macrophage cell line PU5-1.8
#note sequence extracted from NCBI backbone (NCBI:106768, NCBIP:106770)
REFERENCE
I48654
#authors Shin, H.S.; Drysdale, B.E.; Shin, M.L.; Noble, P.W.; Fisher, S.N.; Paznekas, W.A.
#journal Mol. Cell. Biol. (1994) 14:2914-2925
#title Definition of a lipopolysaccharide-responsive element in the 5'-flanking regions of MuRantes and crg-2.
#cross-references MUID:94217689
#accession I48654
##status translation not shown; translated from GB/EMBL/DBJ
##molecule_type DNA
##residues 1-91 ##label SHI
##cross-references EMBL:X70675; NID:g475205; PID:g475206
REFERENCE
#authors Neilson, E.G.; Krensky, A.
#journal Kidney Int. (1992) 41:220-225
#title Isolation and characterization of cDNA from renal tubular epithelium encoding murine Rantes: A small intercrine from

```

Sat Feb 5 12:04:33 2000

the SCY superfamily.
#cross-references MUID:92277990
#accession I56970
#status translated from GB/EMBL/DBDJ
#molecule_type mRNA
#residues 1-40, 'E', 42-91 #label NEI
#cross-references GB:M77747; NID:g200649; PID:g200650
#COMMENT This chemotactant for monocytes but not neutrophils is an immediate-early response protein to LPS stimulation.

GENETICS 26/1; 63/2
#introns
CLASSIFICATION #superfamily macrophage inflammatory protein
KEYWORDS chemotaxis; cytokine; immediate-early protein; inflammation
FEATURE 1-23 #domain signal sequence #status predicted #label SIG
24-91 #product monocyte chemoattractant cytokine RANTES
#status predicted #label MAT
SUMMARY #length 91 #molecular-weight 10071 #checksum 3010

Query Match 78.0%; Score 71; DB 1; Length 91;
Best Local Similarity 66.7%; Pred. No. 7.16e-03;
Matches 8; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Db 71 QVCANPEKKWVQ 82
QY 1 QVCADPSESQVQ 12

RESULT 15
ENTRY #type complete
TITLE monocyte chemotactic protein-2 precursor - human
ORGANISM #formal_name Homo sapiens #common_name man
DATE 02-May-1997 #sequence_revision 18-Jul-1997 #text_change 17-Mar-1999

ACCESSIONS JC5295
REFERENCE JC5295
#authors Van Coillie, E.; Froyen, G.; Nomiya, H.; Miura, R.; Fiten, P.; Van Aelst, I.; Van Damme, J.; Opdenakker, G.
#journal Biochem. Biophys. Res. Commun. (1997) 231:726-730
#title Human monocyte chemotactic protein-2: cDNA cloning and regulated expression of mRNA in mesenchymal cells.

#cross-references MUID:97224420
#accession JC5295
#molecule_type mRNA
#residues 1-99 #label VAN
#cross-references GB:Y10802; NID:g1924937; PID:e294088; PID:g1924938
#experimental_source bone marrow
#COMMENT This protein belongs to the beta-chemokine family which is one of the major HIV-suppressive factors. It plays roles in autoimmune processes such as multiple sclerosis and rheumatoid arthritis and in tumor biology, and contribute to the trafficking and recruitment of the responsive cells.

GENETICS mcp-2
#gene
CLASSIFICATION #superfamily macrophage inflammatory protein
FEATURE 1-23 #domain signal sequence #status predicted #label SIG
24-99 #product monocyte chemotactic protein-2 #status predicted #label MAT
SUMMARY #length 99 #molecular-weight 11246 #checksum 6596

Query Match 78.0%; Score 71; DB 2; Length 99;
Best Local Similarity 66.7%; Pred. No. 7.16e-03;
Matches 8; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Db 73 EVCADPKERWVR 84
QY 1 QVCADPSESQVQ 12

Search completed: Fri Feb 4 17:33:18 2000
Job time : 32 secs.

W P S R L H
(TM)

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MPSrch_pp protein - protein database search, using Smith-Waterman algorithm
Run on: Fri Feb 4 17:32:10 2000; MasPar time 3.66 Seconds
69.659 Million cell updates/sec
Tabular output not generated.

Title: >US-09-150-813-44
Description: (1-12) from US09150813.pgp
Perfect Score: 91
Sequence: 1 QVCADPSESQWQ 12
Scoring table: PAM 150
Gap 15

Searched: 170751 seqs, 21266608 residues
Post-processing: Minimum Match 0%
Listing first 45 summaries

Database: a-geneseq35
1:part1 2:part2 3:part3 4:part4 5:part5 6:part6 7:part7
8:part8 9:part9 10:part10 11:part11 12:part12 13:part13
14:part14 15:part15 16:part16 17:part17 18:part18
19:part19 20:part20 21:part21 22:part22 23:part23
24:part24 25:part25 26:part26 27:part27 28:part28
29:part29 30:part30 31:part31 32:part32 33:part33
34:part34 35:part35 36:part36 37:part37 38:part38
39:part39

Statistics: Mean 18.046; Variance 69.849; scale 0.258
Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

| SUMMARIES | | | | | |
|------------|-------|-------------|-----------------------|-----------|--|
| Result No. | Score | Query Match | Description | Pred. No. | |
| 1 | 91 | 100.0 | LD78 Glu56>Ser. | 8.88e-02 | |
| 2 | 91 | 100.0 | ACT-2. | 8.88e-02 | |
| 3 | 91 | 100.0 | Human H400 polypeptid | 8.88e-02 | |
| 4 | 91 | 100.0 | Human Act-2 protein. | 8.88e-02 | |
| 5 | 91 | 100.0 | MIP-1beta. | 8.88e-02 | |
| 6 | 91 | 100.0 | Human MIP-1 alpha | 8.88e-02 | |
| 7 | 91 | 100.0 | Act-2 clone gene prod | 8.88e-02 | |
| 8 | 91 | 100.0 | PAT744 gene product e | 8.88e-02 | |
| 9 | 91 | 100.0 | Human chemokine MIP-1 | 8.88e-02 | |
| 10 | 91 | 100.0 | MIP-1-beta. | 8.88e-02 | |
| 11 | 91 | 100.0 | Act-2 gene product. | 8.88e-02 | |
| 12 | 91 | 100.0 | PAT 744 gene product. | 8.88e-02 | |
| 13 | 91 | 100.0 | Human chemokine MIP-1 | 8.88e-02 | |
| 14 | 86 | 94.5 | N1-3 LD78. | 2.65e-01 | |
| 15 | 86 | 94.5 | LD78 Arg17>Glu. | 2.65e-01 | |
| 16 | 86 | 94.5 | LD78 Phe28>Glu. | 2.65e-01 | |

| | | | | | | | |
|----|----|------|----|----|--------|-----------------------|----------|
| 17 | 86 | 94.5 | 69 | 7 | R38957 | LD78 Ile40>Ala. | 2.65e-01 |
| 18 | 86 | 94.5 | 69 | 7 | R38969 | LD78 Ser46>Ala. | 2.65e-01 |
| 19 | 86 | 94.5 | 69 | 7 | R38982 | LD78 Lys60>Ser. | 2.65e-01 |
| 20 | 86 | 94.5 | 69 | 7 | R38927 | LD78 Lys44>Glu, Arg45 | 2.65e-01 |
| 21 | 86 | 94.5 | 69 | 7 | R38956 | LD78 Ile24>Ala. | 2.65e-01 |
| 22 | 86 | 94.5 | 69 | 7 | R39140 | LD78 Lys44>Glu. | 2.65e-01 |
| 23 | 86 | 94.5 | 69 | 7 | R38953 | LD78 Asp26>Ser. | 2.65e-01 |
| 24 | 86 | 94.5 | 69 | 7 | R38959 | LD78 Glu29>Ser. | 2.65e-01 |
| 25 | 86 | 94.5 | 69 | 7 | R38945 | LD78 Arg17>Ser, Gln18 | 2.65e-01 |
| 26 | 86 | 94.5 | 69 | 7 | R39144 | LD78 Ile24>Leu. | 2.65e-01 |
| 27 | 86 | 94.5 | 69 | 7 | R38955 | LD78 Phe28>Ala. | 2.65e-01 |
| 28 | 86 | 94.5 | 69 | 7 | R38928 | LD78 Ala9>Ser. | 2.65e-01 |
| 29 | 86 | 94.5 | 69 | 7 | R39099 | LD78 Ser35>Ala. | 2.65e-01 |
| 30 | 86 | 94.5 | 69 | 7 | R39085 | LD78 Leu65>Ala. | 2.65e-01 |
| 31 | 86 | 94.5 | 69 | 7 | R38977 | LD78 Phe23>Ala. | 2.65e-01 |
| 32 | 86 | 94.5 | 69 | 7 | R38936 | LD78 Arg47>Glu. | 2.65e-01 |
| 33 | 86 | 94.5 | 69 | 7 | R38944 | LD78 Gln18>Glu. | 2.65e-01 |
| 34 | 86 | 94.5 | 69 | 7 | R39083 | LD78 Asp26>Ala, Glu29 | 2.65e-01 |
| 35 | 86 | 94.5 | 69 | 7 | R38966 | LD78 Ala4>Glu. | 2.65e-01 |
| 36 | 86 | 94.5 | 69 | 7 | R38939 | LD78 Ile24>Asn. | 2.65e-01 |
| 37 | 86 | 94.5 | 69 | 7 | R38958 | LD78 Arg47>Ser. | 2.65e-01 |
| 38 | 86 | 94.5 | 69 | 7 | R39134 | LD78 Ile40>Asn. | 2.65e-01 |
| 39 | 86 | 94.5 | 69 | 7 | R38976 | LD78 Asp5>Ser. | 2.65e-01 |
| 40 | 86 | 94.5 | 69 | 7 | R38972 | LD78 Ala4>Ser. | 2.65e-01 |
| 41 | 86 | 94.5 | 70 | 7 | R38949 | Ala-Ser1>Pro LD78. | 2.65e-01 |
| 42 | 86 | 94.5 | 72 | 7 | R38950 | Leu-Ser-Ala-Ser1>Pro | 2.65e-01 |
| 43 | 86 | 94.5 | 92 | 39 | W82722 | Human M1A protein. | 2.65e-01 |
| 44 | 86 | 94.5 | 93 | 39 | W82721 | Human M10 protein. | 2.65e-01 |
| 45 | 86 | 94.5 | 93 | 13 | R70797 | MIP-1-alpha. | 2.65e-01 |

ALIGNMENTS

RESULT 1
ID R38981 standard; Protein; 69 AA.
AC R38981,1993 (first entry)
DE LD78 Glu56>Ser.
KW SC1; stem cell inhibition; LD78; ACT2; MIP-1alpha;
KW macrophage inflammatory protein; multimer; tumour therapy;
KW psoriasis; hyperproliferation.
OS Homo sapiens.
PN W09313206-A.
PD 08-JUL-1993.
PF 23-DEC-1991; G02390.
PR 23-DEC-1991; GB-027319.
PR 14-OCT-1992; GB-021587.
PA (BRRI-) BRITISH BIO-TECHNOLOGY LTD.
PI Craig S, Czaplowski LG, Edwards RM, Gilbert RJ;
PI Hunter MG;
DR WPI; 93-227322/28.
PT Protein with stem cell inhibition activity, e.g. LD78 or MIP-1
PT alpha - unable to form stable multimer higher than dodecamer,
PT providing better tissue penetration
PS Example 56; Page 70; 294pp; English.
CC Analogues of natural stem cell inhibitors, such as LD78 and MIP-1
CC beyond certain stages (e.g. dodecamer), have improved solution
CC properties leading to enhanced productivity and greater therapeutic
CC utility as stem cell protective agents. The analogues may be used
CC in tumour therapy, psoriasis or other diseases involving hyper-
CC proliferative stem cells.
CC Most pref. LD78 analogues are Phe12>Gln, Lys44>Ser, Arg17>Glu (with
CC Gln18>Glu) and, esp., Asp26>Ala and Glu66>Ser. Pref. MIP-1alpha
CC analogues correspond to the pref. LD78 analogues.
SQ Sequence 69 AA;

Query Match 100.0%; Score 91; DB 7; Length 69;
Best Local Similarity 100.0%; Pred. No. 8.88e-02;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Db 48 qvcadpseswvq 59
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QY 1 QVCADPSESQWQ 12

RESULT 2
ID R38925 standard; Protein; 74 AA.
AC R38925;
DT 23-NOV-1993 (first entry)
DE ACT-2.
KW SCI; stem cell inhibition; LD78; ACT2; MIP-1alpha;
KW macrophage inflammatory protein; multimer; tumour therapy;
KW psoriasis; hyperproliferation.
OS Synthetic (Homo sapiens).
PN W09313206-A.
PD 08-JUL-1993.
PF 23-DEC-1992; G02390.
PR 23-DEC-1991; GB-027319.
PR 14-OCT-1992; GB-021587.
PA (BRBI-) BRITISH BIO-TECHNOLOGY LTD.
PI Craig S, Czaplewski LG, Edwards RM, Gilbert RJ;
PI Hunter MG;
PI WPI: 93-227322/28.
DR N-PSDB; Q44267.
DR Protein with stem cell inhibition activity, e.g. LD78 or MIP-1
PT alpha - unable to form stable multimer higher than dodecamer,
PT providing better tissue penetration
PS Disclosure; Page 181-182; 294pp; English.
CC The secondary and tertiary structure of LD78 and MIP-1alpha have
CC been shown to be almost identical. Only a difference in the nature
CC of a side-chain or charge interaction in the vicinity of Trp57 is
CC observed for the two proteins. Despite having a similar secondary
CC structure to LD78 and MIP-1alpha, near u.v. C.d. studies show ACT2
CC has a different tertiary conformation as highlighted by the shape
CC and intensity of the spectrum. This provides strong evidence that
CC LD78 and not ACT2 is the human homologue of MIP-1alpha.
CC Analogues of natural stem cell inhibitors, such as LD78 and MIP-
CC 1alpha, having mutations to prevent or reduce multimer formation
CC beyond certain stages (e.g. dodecamer), have improved solution
CC properties leading to enhanced productivity and greater therapeutic
CC utility as stem cell protective agents. The analogues may be used
CC in tumour therapy, psoriasis or other diseases involving hyper-
CC proliferative stem cells.
CC Most pref. LD78 analogues are Phe12>Gln, Lys44>Ser, Arg17>Glu (with
CC Gln18>Glu) and, esp., Asp26>Ala and Glu66>Ser. Pref. MIP-1alpha
CC analogues correspond to the pref. LD78 analogues.
SQ Sequence 74 AA;

Query Match 100.0%; Score 91; DB 7; Length 74;
Best Local Similarity 100.0%; Pred. No. 8.88e-02;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 54 qvcadpseswq 65
QY 1 QVCADPSESQWQ 12

RESULT 3
ID P91030 standard; peptide; 91 AA.
AC P91030;
DT 27-NOV-1989 (first entry).
DE Human H400 polypeptide.
KW H400 polypeptide; markers; activated T cells;
KW pCB(SR-alpha)-H400; immunogenic; immune system; antibody; human.
OS Homo sapiens (human).
PN Key Location/Qualifiers
PD peptide 2...91
PD peptide 24...91
PD EP-329363-A.
PD 23-AUG-1989.
PF 13-FEB-1989; 301341.
PR 18-FEB-1988; US-157743.
PA (SCHE) Schering Biotech. Co.
PI Brown KD, Mosmann TR, Zurawski G, Zurawski SM;
PI WPI: 89-243262/34.

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PT New polypeptide H400 and encoding nucleic acid
PT - used as markers specific for activated T cells,
PT for monitoring the immune system.
PS Disclosure; fig 2; 16pp; English.
CC H400 polypeptide (see N90532). This protein is specifically
CC produced by activated T cells, and is useful for
CC detecting cells which produce H400 or mRNA transcripts of
CC H400 for monitoring the immune system. Claims 1 and 2 give
CC polypeptides corresp. to the featured peptides above.
SQ Sequence 91 AA;

Query Match 100.0%; Score 91; DB 1; Length 91;
Best Local Similarity 100.0%; Pred. No. 8.88e-02;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 71 qvcadpseswq 82
QY 1 QVCADPSESQWQ 12

RESULT 4
ID W82717 standard; Protein; 92 AA.
AC W82717;
DT 15-MAR-1999 (first entry)
DE Human Act-2 protein.
KW Chemokine; ZCHEMO-8; human; pathological condition; infection; cancer;
KW autoimmune disorder; immunodeficiency; myeloepoietic; wound healing;
KW transplant; progenitor cell; HIV infection; AIDS; chemotherapy;
KW radiation therapy; T cell; macrophage activation inhibitor; B lymphocyte;
KW chronic inflammatory disease; infective disease; diagnosis; detection;
KW drug screening; gene therapy; Act-2.
OS Homo sapiens.
PN W09854326-A1.
PD 03-DEC-1998.
PF 19-MAY-1998; U10329.
PR 29-MAY-1997; US-047860.
PA (ZYMO) ZYMOGENETICS INC.
PI Sheppard PO;
PI WPI: 99-059841/05.
DR New isolated human beta-chemokine, ZCHEMO-8 - used to develop
DR products for treating e.g. ischaemia, reperfusion, wound healing,
PT autoimmune diseases, inflammation, asthma or infections
PT Disclosure; Page 93; 131pp; English.
CC This sequence represents a human beta chemokine, Act-2 which is used to
CC describe a method in which a novel beta chemokine, ZCHEMO-8 is isolated.
CC Altered levels of ZCHEMO-8 may be indicative of pathological conditions,
CC including infections, cancer, myeloepoietic disorders, autoimmune
CC disorders and immunodeficiencies. The ZCHEMO-8 polypeptides can be used,
CC e.g. to reduce the damage in ischaemic and reperfusion injuries, in a
CC wound healing regime to stimulate an infiltration of immune cells (e.g.
CC monocytes, neutrophils, T lymphocytes or basophils) to a wound site to
CC facilitate healing. ZCHEMO-8 may be used to mobilise progenitor cells from
CC the marrow into the peripheral blood for transplants. ZCHEMO-8
CC polypeptides could be used to further define the role of chemokines in
CC mediating suppression of HIV replication in CD4+ T-cells and limiting
CC progression of HIV infection to AIDS. Use may be made of ZCHEMO-8
CC polypeptides during chemotherapy or radiation therapy, to protect
CC haematopoietic cells. ZCHEMO-8 antagonists may have a beneficial
CC therapeutic effect in diseases where the inhibition of activation of
CC certain macrophages, neutrophils, basophils, B lymphocytes and/or T cells
CC may be effective. Such diseases include autoimmune diseases e.g. multiple
CC sclerosis, insulin-dependent diabetes and systemic lupus erythematosus,
CC rheumatoid arthritis, allergies, asthma or arteriosclerosis. Also benefit
CC may be derived from using ZCHEMO-8 antagonists for chronic inflammatory
CC and infective diseases. Antagonists may be used to dampen or inactivate
CC ZCHEMO-8 during activated immune response. The products can also be used
CC for detection, diagnosis, drug screening or gene therapy.
SQ Sequence 92 AA;

Query Match 100.0%; Score 91; DB 39; Length 92;
Best Local Similarity 100.0%; Pred. No. 8.88e-02;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db 72 qvcadpseswvq 83
 QY 1 QVCADPSESQVQ 12

RESULT 5

ID R36770 standard; protein; 92 AA.
 AC R36770;
 DT 29-SEP-1993 (first entry)
 DE MIP-lbeta.
 KW Macrophage inflammatory protein; megakaryocytopoiesis; MIP-1; MIP-2;
 KW thrombocythemia; reactive thrombocytosis; stroke; emboli; platelet;
 KW myeloproliferative disorder.
 OS Homo sapiens.
 PN WO9309799-A.
 PD 27-MAY-1993.
 PF 13-NOV-1992; U09671.
 PR 15-NOV-1991; US-792988.
 PA (UYPE-) UNIV PENNSYLVANIA.
 PI Gewirtz AM.
 DR WPI: 93-182239/22.
 PT Suppression of megakaryocytopoiesis - by administration of
 PT macrophage inflammatory protein-1 or -2
 PS Disclosure; Page 17; 26pp; English.
 CC A claimed method for reducing the no. of circulating platelets in the
 CC bloodstream of a mammal comprises admin. of MIP-1 and/or MIP-2 or
 CC their analogues to induce such a reduction. The MIP-1, MIP-2 or
 CC analogue may be operatively linked to a carrier. The MIPs can be
 CC used to inhibit megakaryocytopoiesis to effect in vivo reduction of
 CC platelet nos. They can be used to treat disorders with excessively
 CC high platelet counts such as thrombocytosis, stroke, pulmonary emboli
 CC and myeloproliferative disorders.
 SQ Sequence 92 AA;

Query Match 100.0%; Score 91; DB 7; Length 92;
 Best Local Similarity 100.0%; Pred. No. 8.88e-02;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 72 qvcadpseswvq 83
 QY 1 QVCADPSESQVQ 12

RESULT 6

ID R22712 standard; protein; 92 AA.
 AC R22712;
 DT 22-SEP-1992 (first entry)
 DE Human MIP-1 alpha
 KW Macrophage inducible protein; cancer diagnosis; infection;
 KW myelopietic dysfunction; autoimmune disease; ss.
 OS Homo sapiens.
 PN WO9205198-A.
 PD 02-APR-1992.
 PF 13-SEP-1991; U06489.
 PR 14-SEP-1990; US-582636.
 PA (CHIR-) CHIRON CORP.
 PI Gallegos C A, Tekamp-Olson P;
 DR WPI: 92-132088/16.
 DR N-PSDB; Q23729.
 PT Expression of pure mammalian macrophage inducible proteins in
 PT yeast - to produce MIP for treatment and diagnosis of cancer,
 PT infection, myelopietic dysfunction, etc.
 PS Example 3; Fig 1; 38pp; English.
 CC This sequence was deduced from the nucleotide sequence Q23729.
 CC The protein was produced by cloning into the expression vector
 CC PYMP300. The human MIP-1alpha sequence was derived from the
 CC lambda gt10 cDNA clone hMIP1-13a, and the GAPDH promoter sequence,
 CC alpha factor transcription terminator derived from plasmid pGALL,
 CC the construction of which is described in patent application
 CC EP0324-274. Recombinantly produced MIP proteins have diagnostic and
 CC therapeutic utility for detecting and treating infections, cancer,
 CC myelopietic dysfunction and autoimmune diseases. Although not
 CC directly cytotoxic for WEHI tumor cells, MIP-1 treated macrophages

CC exhibited enhanced antibody-independent macrophage cytotoxicity for
 CC tumour targets. MIP-1 treatment stimulated proliferation of mature
 CC tissue macrophages; this effect was synergistic with both CSF-1 and
 CC GM-CSF. Purified preparations of the recombinantly derived
 CC MIP-1alpha peptide alone induced TNF and IL-6 in macrophages, but
 CC MIP-lbeta did not. As little as twofold excess MIP-lbeta blocked
 CC TNF-induction by MIP-lalpha to a significant degree. Other
 CC bioactivity defined for native MIP-1 and recombinant MIP-lalpha
 CC is the inhibition of proliferation of less differentiated
 CC erythropoietin IL-3 dependent hematopoietic progenitor cells.
 SQ Sequence 92 AA;

Query Match 100.0%; Score 91; DB 4; Length 92;
 Best Local Similarity 100.0%; Pred. No. 8.88e-02;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 72 qvcadpseswvq 83
 QY 1 QVCADPSESQVQ 12

RESULT 7

ID R04220 standard; protein; 92 AA.
 AC R04220;
 DT 12-SEP-1990 (first entry)
 DE Act-2 clone gene product is activated human peripheral blood
 DE mononuclear cell (PBMC).
 KW Peripheral blood mononuclear cell; PBMC; lymphokine;
 KW cytokine; mitogen; ds.
 OS Homo sapiens.
 PN US7312001-A.
 PD 13-MAR-1990.
 PF 16-DEC-1988; 312001.
 PR 16-DEC-1988; US-312001.
 PA (USSH) US Dept Health & Human.
 PI Siebenlist U, Leonard WJ, Zipfel PJ, Irving SG, Kelly K;
 DR WPI: 90-139708/18.
 DR N-PSDB; Q03682.
 PT New lymphokine-cytokine genes -
 PT isolated using mRNA from activated human peripheral blood
 PT mononuclear cells and T cells.
 PS Disclosure; 84pp; English.
 CC The lymphokine/cytokine-like proteins are associated with the
 CC inflammatory response and/or have mitogenic activities. Antigens
 CC raised to the proteins may be useful in detection and purification,
 CC especially in bioassays of various tumour cells or genetic defects
 CC in the inflammatory response.
 SQ Sequence 92 AA;

Query Match 100.0%; Score 91; DB 1; Length 92;
 Best Local Similarity 100.0%; Pred. No. 8.88e-02;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 72 qvcadpseswvq 83
 QY 1 QVCADPSESQVQ 12

RESULT 8

ID R04222 standard; protein; 92 AA.
 AC R04222;
 DT 12-SEP-1990 (first entry)
 DE pAT744 gene product encoding activated T cell mRNAs.
 KW Peripheral blood mononuclear cell; PBMC; lymphokine;
 KW cytokine; mitogen; ds.
 OS Homo sapiens.
 PN US7312001-A.
 PD 13-MAR-1990.
 PF 16-DEC-1988; 312001.
 PR 16-DEC-1988; US-312001.
 PA (USSH) US Dept Health & Human.
 PI Siebenlist U, Leonard WJ, Zipfel PJ, Irving SG, Kelly K;
 DR WPI: 90-139708/18.

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DR N-PSDB: Q03684.
PT New lymphokine-cytokine genes -
PT isolated using mRNA from activated human peripheral blood
PT mononuclear cells and T cells.
PS Disclosure; 184pp; English.
CC The lymphokine/cytokine-like proteins are associated with the
CC inflammatory response and/or have mitogenic activities. Antigens
CC raised to the proteins may be useful in detection and purification,
CC especially in bioassays of various tumour cells or genetic defects
CC in the inflammatory response.
CC The best copy of the sequence available is still unclear and some
CC errors in the sequence may occur.
SQ Sequence 92 AA;

Query Match 100.0%; Score 91; DB 1; Length 92;
Best Local Similarity 100.0%; Pred. No. 8.88e-02;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 72 qvcadpseswvq 83
QY 1 QVCADPSESWSVQ 12

RESULT 9
ID W76225 standard; Protein; 92 AA.
AC W76225;
DT 02-DEC-1998 (first entry)
DE Human chemokine MIP-1beta domain protein fragment.
KW Chemokine; MIP-1beta; chimeric; human; heterologous protein; inhibitor;
KW receptor; chemotaxis; migratory cell; angiogenesis; bone; regeneration;
KW cartilage; ligament; tendon; bone marrow; transplant; inflammation;
KW autoimmune disorder; vaccine adjuvant; antigen presenting cell; cancer;
KW HIV; human immunodeficiency virus; therapy; prevention.
OS Homo sapiens.
OS Synthetic.
PN W09838212-A2.
PD 03-SEP-1998.
PF 27-FEB-1998; U04002.
PR 28-FEB-1997; US-808720.
PA (GEM) GENETICS INST INC.
PI Herrmann SH, Swanberg SL;
PI WPI; 98-495387/42.
DR New chimeric polypeptide(s) - comprise chemokine polypeptide
PT covalently linked to heterologous polypeptide, used for, e.g.
PT chemotactic recruitment of migratory cells
PS Example 1; Page 53; 69pp; English.
CC This sequence represents a human chemokine MIP-1beta domain, derived
CC from HUMACT2A. This sequence is used in the production of a construct
CC comprising an isolated polynucleotide encoding a chimeric polypeptide
CC which comprises at least 1 chemokine polypeptide covalently attached to
CC at least 1 heterologous polypeptide. By including a heterologous protein
CC in the construction, the chimeric polypeptides will have longer and
CC increased biological activity and can direct the chemokine to a
CC particular site. The chimeric polypeptides can also be designed to
CC inhibit or desensitize chemokine receptors. They can be used to affect
CC the chemotactic recruitment of migratory cells, e.g. for stimulating or
CC inhibiting angiogenesis, for regeneration of bone, cartilage, ligament or
CC tendon, for recruiting transplanted bone marrow cells to bone marrow, or
CC for treating or preventing inflammatory or autoimmune disorders. They can
CC also be used as vaccine adjuvants or to enhance the activity of antigen
CC presenting cells and for treating or preventing HIV infection.
CC Neutralising antibodies binding to the chimeric polypeptide may also be
CC useful therapeutics for both conditions associated with the chemokine
CC corresponding to the chemokine domain of the chimeric polypeptide and
CC also in the treatment of some forms of cancer where abnormal expression
CC of the chemokine is involved.
SQ Sequence 92 AA;

Query Match 100.0%; Score 91; DB 35; Length 92;
Best Local Similarity 100.0%; Pred. No. 8.88e-02;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 72 qvcadpseswvq 83

DR N-PSDB: Q03684.
PT New lymphokine-cytokine genes -
PT isolated using mRNA from activated human peripheral blood
PT mononuclear cells and T cells.
PS Disclosure; 184pp; English.
CC The lymphokine/cytokine-like proteins are associated with the
CC inflammatory response and/or have mitogenic activities. Antigens
CC raised to the proteins may be useful in detection and purification,
CC especially in bioassays of various tumour cells or genetic defects
CC in the inflammatory response.
CC The best copy of the sequence available is still unclear and some
CC errors in the sequence may occur.
SQ Sequence 92 AA;

Query Match 100.0%; Score 91; DB 1; Length 92;
Best Local Similarity 100.0%; Pred. No. 8.88e-02;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 72 qvcadpseswvq 83
QY 1 QVCADPSESWSVQ 12

RESULT 10
ID R70798 standard; Protein; 92 AA.
AC R70798;
DT 29-AUG-1995 (first entry)
DE MIP-1-beta.
KW Macrophage inflammatory protein 1-beta; MIP-1-beta;
KW heparanase; heparin; heparan sulfate; arthritis; restenosis;
KW cancer; wound healing.
OS Homo sapiens.
PN W09504158-A.
PD 09-FEB-1995.
PR 26-JUL-1994; U08207.
PR 29-JUL-1993; US-099866.
PR 13-OCT-1993; US-136117.
PA (UPJO) UPJOHN CO.
PA WPI; 95-082239/11.
DR N-PSDB: Q85368.
DT Screening for cpds. with anti-heparanase activity - by detecting
PT inhibition of heparin or heparan sulphate degradation,
PT potentially useful for treating arthritis, restenosis, cancer.
PS Claim 13; Page 47; 60pp; English.
CC Purified heparanases, prepared under reducing conditions and
CC activated with transglutaminase, are given in R70786-804. Most
CC are prepared by reverse transcription of mRNA from activated human
CC leukocytes, then cloning of the cDNA into pVL1392 baculovirus
CC vector, and expression in Sf9 cells in the presence of reduced
CC glutathione and dithiothreitol.
SQ Sequence 92 AA;

Query Match 100.0%; Score 91; DB 13; Length 92;
Best Local Similarity 100.0%; Pred. No. 8.88e-02;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 72 qvcadpseswvq 83
QY 1 QVCADPSESWSVQ 12

RESULT 11
ID R05900 standard; protein; 92 AA.
AC R05900;
DT 27-NOV-1990 (first entry)
DE Act-2 gene product.
KW Act-2; human lymphokine/cytokine-like protein; mitogenic; ds.
OS Homo sapiens.
PN W09007009-A.
PD 28-JUN-1990.
PF 15-DEC-1989; U05603.
PF 16-DEC-1988; US-285489.
PA (USDC) US SEC OF COMMERCE.
PI SIEBENLIST U, ZIPPEL PE, KELLEY K, IRVING SG, NAPOLITANO M,
PI LEONARD WT;
PI WPI; 90-224535/29.
DR N-PSDB: Q05297.
DT New lymphokine-cytokine-like genes - isolated by subtraction
PT cloning and hybridisation using mRNA from activated peripheral
PT blood T cells.
PS Disclosure; 137pp; English.
CC Probes raised to the gene product may be used in bioassay of the
CC product, useful in detecting tumour cells, genetic defects in the
CC inflammatory response, or in vivo, for the detection of immune
CC system activation. The proteins may also be used to determine the
CC presence of their receptors.
SQ Sequence 92 AA;

Query Match 100.0%; Score 91; DB 1; Length 92;
Best Local Similarity 100.0%; Pred. No. 8.88e-02;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db 72 qvcadpseswvq 83
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 QY 1 QVCADPSESWSVQ 12

RESULT 12

ID R05903 standard; protein; 93 AA.
 AC R05903;
 DT 27-NOV-1990 (first entry)
 DE PAT 744 gene product.
 KW Act-2; human lymphokine/cytokine-like protein; mitogenic; ds.
 OS Homo sapiens.
 PN W09007009-A.
 PD 28-JUN-1990.
 PR 15-DEC-1989; U05603.
 PR 16-DEC-1988; US-285489.
 PA (USDC) US SEC OF COMMERCE.
 PI SIEBENLIST U, ZIFFEL PE, KELLEY K, IRVING SG, NAPOLITANO M,
 PI LEONARD WJ;
 DR WPI; 90-224535/29.
 DR N-PSDB; Q05299.
 PT New lymphokine-cytokine-like genes - isolated by subtraction
 PT cloning and hybridisation using mRNA from activated peripheral
 PT blood T cells.
 PS Disclosure; 137pp; English.
 CC Probes raised to the gene product may be used in bioassay of the
 CC product, useful in detecting tumour cells, genetic defects in the
 CC inflammatory response, or in vivo, for the detection of immune
 CC system activation. The proteins may also be used to determine the
 CC presence of their receptors.
 SQ Sequence 93 AA;

Query Match 100.0%; Score 91; DB 1; Length 93;
 Best Local Similarity 100.0%; Pred. No. 8.88e-02;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 73 qvcadpseswvq 84
 |||||
 QY 1 QVCADPSESWSVQ 12

RESULT 13

ID W76223 standard; Protein; 331 AA.
 AC W76223;
 DT 02-DEC-1998 (first entry)
 DE Human chemokine MIP-1beta domain protein from clone MPB-X.
 KW Chemokine; MIP-1beta; chimeric; human; heterologous protein; inhibitor;
 KW receptor; chemotaxis; migratory cell; angiogenesis; bone; regeneration;
 KW cartilage; ligament; tendon; bone marrow; transplant; inflammation;
 KW autoimmune disorder; vaccine adjuvant; antigen presenting cell; cancer;
 KW HIV; human immunodeficiency virus; therapy; prevention.
 OS Homo sapiens.
 OS Synthetic.
 FH Key
 FT Peptide
 FT Location/Qualifiers
 FT 1..24
 FT /label= signal
 FT /note= "signal peptide"
 FT 25..331
 FT /label= MIP-1beta
 FT /note= "Chemokine domain"
 PN W09838212-A2.
 PD 03-SEP-1998.
 PR 27-FEB-1998; U04002.
 PR 28-FEB-1997; US-808720.
 PA (GENY) GENETICS INST INC.
 PI Herrmann SH, Swanberg SL;
 DR WPI; 98-495387/42.
 DR N-PSDB; V56825.
 PT New chimeric polypeptide(s) - comprise chemokine polypeptide
 PT covalently linked to heterologous polypeptide, used for, e.g.
 PT chemotactic recruitment of migratory cells
 PS Claim 16c; Page 50-51; 69pp; English.

CC This sequence represents a human chemokine MIP-1beta domain, isolated
 CC from cDNA clone MPB-X. This sequence is used in the production of a
 CC construct comprising an isolated polynucleotide encoding a chimeric
 CC polypeptide which comprises at least 1 chemokine polypeptide covalently
 CC attached to at least 1 heterologous polypeptide. By including a
 CC heterologous protein in the construction, the chimeric polypeptides will
 CC have longer and increased biological activity and can direct the
 CC chemokine to a particular site. The chimeric polypeptides can also be
 CC designed to inhibit or desensitize chemokine receptors. They can be used
 CC to affect the chemotactic recruitment of migratory cells, e.g. for
 CC stimulating or inhibiting angiogenesis, for regeneration of bone,
 CC cartilage, ligament or tendon, for recruiting transplanted bone marrow
 CC cells to bone marrow, or for treating or preventing inflammatory or
 CC autoimmune disorders. They can also be used as vaccine adjuvants or to
 CC enhance the activity of antigen presenting cells and for treating or
 CC preventing HIV infection. Neutralising antibodies binding to the chimeric
 CC polypeptide may also be useful therapeutics for both conditions
 CC associated with the chemokine corresponding to the chemokine domain of
 CC the chimeric polypeptide and also in the treatment of some forms of
 CC cancer where abnormal expression of the chemokine is involved.
 SQ Sequence 331 AA;

Query Match 100.0%; Score 91; DB 35; Length 331;
 Best Local Similarity 100.0%; Pred. No. 8.88e-02;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 72 qvcadpseswvq 83

QY 1 QVCADPSESWSVQ 12

RESULT 14

ID R38948 standard; Protein; 66 AA.
 AC R38948;
 DT 23-NOV-1993 (first entry)
 DE NL-3 LD78.
 KW SCI; stem cell inhibition; LD78; ACT2; MIP-1alpha;
 KW macrophage inflammatory protein; multimer; tumour therapy;
 KW psoriasis; hyperproliferation.
 OS Homo sapiens.
 PN W09313206-A.
 PD 08-JUL-1993.
 PR 23-DEC-1992; G02390.
 PR 23-DEC-1991; GB-027319.
 PR 14-OCT-1992; GB-021587.
 PA (BRRI) BRITISH BIO-TECHNOLOGY LTD.
 PI Craig S, Czaplewski LG, Edwards RM, Gilbert RJ;
 PI Hunter MG;
 PI WPI; 93-227322/28.
 DR Protein with stem cell inhibition activity, e.g. LD78 or MIP-1
 PT alpha - unable to form stable multimer higher than dodecamer,
 PT providing better tissue penetration
 PT Example 23; Page 58; 294pp; English.
 PS Analogues of natural stem cell inhibitors, such as LD78 and MIP-
 CC laipha, having mutations to prevent or reduce multimer formation
 CC beyond certain stages (e.g. dodecamer), have improved solution
 CC properties leading to enhanced productivity and greater therapeutic
 CC utility as stem cell protective agents. The analogues may be used
 CC in tumour therapy, psoriasis or other diseases involving hyper-
 CC proliferative stem cells.
 CC Most pref. LD78 analogues are Phe12>Gln, Lys44>Ser, Arg17>Glu (with
 CC Gln18>Glu) and, esp., Asp26>Ala and Glu66>Ser. Pref. MIP-1alpha
 CC analogues correspond to the pref. LD78 analogues.
 SQ Sequence 66 AA;

Query Match 94.5%; Score 86; DB 7; Length 66;
 Best Local Similarity 91.7%; Pred. No. 2.65e-01;
 Matches 11; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Db 45 qvcadpseswvq 56

QY 1 QVCADPSESWSVQ 12

RESULT 15
 ID R39146 standard; Protein; 69 AA.
 AC R39146;
 DT 23-NOV-1993 (first entry)
 DE LD78 Arg17>Glu.
 KW SCT; stem cell inhibition; LD78; ACT2; MIP-lalpha;
 KW macrophage inflammatory protein; multimer; tumour therapy;
 KW psoriasis; hyperproliferation.
 OS Homo sapiens.
 PN W09313206-A.
 PD 08-JUL-1993.
 PF 23-DEC-1992; G02390.
 PR 23-DEC-1991; GB-027319.
 PR 14-OCT-1992; GB-021587.
 PA (BRBI-) BRITISH BIO-TECHNOLOGY LTD.
 PI Craig S, Czaplewski LG, Edwards RM, Gilbert RJ;
 PI Hunter MG;
 DR WPI; 93-227322/28.
 PT Protein with stem cell inhibition activity, e.g. LD78 or MIP-1
 PT alpha - unable to form stable multimer higher than dodecamer,
 PT providing better tissue penetration
 PS Example 124; Page 94; 294pp; English.
 CC Analogues of natural stem cell inhibitors, such as LD78 and MIP-
 CC lalpha, having mutations to prevent or reduce multimer formation
 CC beyond certain stages (e.g. dodecamer), have improved solution
 CC properties leading to enhanced productivity and greater therapeutic
 CC utility as stem cell protective agents. The analogues may be used
 CC in tumour therapy, psoriasis or other diseases involving hyper-
 CC proliferative stem cells.
 CC Most pref. LD78 analogues are Phe12>Gln, Lys44>Ser, Arg17>Glu (with
 CC Gln18>Glu) and, esp., Asp26>Ala and Glu66>Ser. Pref. MIP-lalpha
 CC analogues correspond to the pref. LD78 analogues.
 SQ Sequence 69 AA;

Query Match 94.5%; Score 86; DB 7; Length 69;
 Best Local Similarity 91.7%; Pred. No. 2.65e-01;
 Matches 11; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Db 48 qvcadpseewvq 59
 |||||
 QY 1 QVCADPSESVMQ 12

Search completed: Fri Feb 4 17:32:29 2000
 Job time : 19 secs.

RX MEDLINE; 91312872.
 RA GRONENBORN A.M., CLORE G.M.;
 RT "Modeling the three-dimensional structure of the monocyte chemo-
 RT attractant and activating protein MCP-1 on the basis of the
 RT solution structure of interleukin-8";
 RL PROTEIN ENG. 4:263-269(1991).
 RN [11]
 RP X-RAY CRYSTALLOGRAPHY (1.85 ANGSTROMS).
 RX MEDLINE; 97143315.
 RA LUBKOWSKI J., BUJACZ G., DOMAILLE P.J., HANDEL T.M., WLODAWER A.;
 RT "The structure of MCP-1 in two crystal forms provides a rare example
 RT of variable quaternary interactions";
 RL NAT. STRUCT. BIOL. 4:64-69(1997).
 RN [12]
 RP STRUCTURE BY NMR.
 RX MEDLINE; 96234959.
 RA HANDEL T.M., DOMAILLE P.J.;
 RT "Heteronuclear (1H, 13C, 15N) NMR assignments and solution structure
 RT of the monocyte chemoattractant protein-1 (MCP-1) dimer";
 RL BIOCHEMISTRY 35:6569-6584(1996).
 RN [13]
 RP EFFECT OF DELETION OF N-TERMINAL RESIDUES.
 RX MEDLINE; 96195223.
 RA WEBER M., UGCCIONI M., BAGGIOLINI M., CLARK-LEWIS I., DAHINDEN C.A.;
 RT "Deletion of the NH2-terminal residue converts monocyte chemotactic
 RT protein 1 from an activator of basophil mediator release to an
 RT eosinophil chemoattractant";
 RL J. EXP. MED. 183:681-685(1996).
 RN [14]
 RP MUTAGENESIS.
 RX MEDLINE; 94253189.
 RA ZHANG Y.J., RUTLEDGE B.J., ROLLINS B.J.;
 RT "Structure/activity analysis of human monocyte chemoattractant
 RT protein-1 (MCP-1) by mutagenesis. Identification of a mutated protein
 RT that inhibits MCP-1-mediated monocyte chemotaxis";
 RL J. BIOL. CHEM. 269:15918-15924(1994).
 RN [15]
 RP SUBUNIT.
 RX MEDLINE; 97053697.
 RA KIM K.-S., RAJARATHNAM K., CLARK-LEWIS I., SYKES B.D.;
 RT "Structural characterization of a monomeric chemokine: monocyte
 RT chemoattractant protein-3";
 RL FEBS LETT. 395:277-282(1996).
 CC -!- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES AND BASOPHILS
 CC BUT NOT NEUTROPHILS OR EOSINOPHILS. AUGMENTS MONOCYTE ANTI-TUMOR
 CC ACTIVITY. HAS BEEN IMPLICATED IN THE PATHOGENESIS OF DISEASES
 CC CHARACTERIZED BY MONOCYTIC INFILTRATES, LIKE PSORIASIS, RHEUMATOID
 CC ARTHRITIS OR ATHEROSCLEROSIS. MAY BE INVOLVED IN THE RECRUITMENT
 CC OF MONOCYTES INTO THE ARTERIAL WALL DURING THE DISEASE PROCESS OF
 CC ATHEROSCLEROSIS.
 CC -!- SUBUNIT: MONOMER OR HOMODIMER. IN EQUILIBRIUM.
 CC -!- PTM: PROCESSING AT THE N-TERMINUS CAN REGULATE RECEPTOR AND TARGET
 CC CELL SELECTIVITY. DELETION OF THE AMINO- TERMINAL RESIDUE CONVERTS
 CC IT FROM AN ACTIVATOR OF BASOPHIL TO AN EOSINOPHIL CHEMOATTRACTANT.
 CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
 CC C-C) (CHEMOKINE CC).
 CC -----
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 DR EMBL; M31626; G386961; -;
 DR EMBL; M30816; G386961; JOINED.
 DR EMBL; M31625; G386961; JOINED.
 DR EMBL; M24545; G307163; -;
 DR EMBL; M28226; G338009; -;
 DR EMBL; X14768; G34514; -;
 DR EMBL; M37719; G487124; -;
 DR EMBL; M28225; G338007; -;

DR EMBL; M28223; G338007; JOINED.
 DR EMBL; M28224; G338007; JOINED.
 DR EMBL; S69738; G545465; -;
 DR EMBL; S71513; G240868; -;
 DR EMBL; A17786; G641145; -;
 DR PIR; A35474; A35474.
 DR PIR; S03339; S03339.
 DR PDB; 1DOK; 12-MAR-97.
 DR PDB; 1DOL; 12-MAR-97.
 DR PDB; 1DOM; 14-OCT-96.
 DR PDB; 1DON; 14-OCT-96.
 DR PDB; 1MCA; 15-OCT-94.
 DR PDB; 158105; -;
 DR PIR; PS00472; SMALL_CYTOKINES_CC; 1.
 DR PFAM; PF00048; i18; 1.
 KW CYTOKINE; CHEMOTAXIS; SIGNAL; INFLAMMATORY RESPONSE; 3D-STRUCTURE.
 FT SIGNAL 1 23
 FT CHAIN 24 99 MONOCYTE CHEMOTACTIC PROTEIN 1.
 FT MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID.
 FT DISULFID 34 59
 FT DISULFID 35 75
 FT CARBOHYD 37 37
 FT VARIANT 76 76
 FT MUTAGEN 24 24 MISSING: LOSS OF ACTIVITY.
 FT MUTAGEN 25 32 MISSING: LOSS OF ACTIVITY.
 FT MUTAGEN 24 85 MISSING: 90% REDUCTION IN ACTIVITY.
 FT MUTAGEN 24 91 MISSING: 83% REDUCTION IN ACTIVITY.
 FT MUTAGEN 26 26 D->A: 90% REDUCTION IN ACTIVITY.
 FT MUTAGEN 29 29 N->A: 50% REDUCTION IN ACTIVITY.
 FT MUTAGEN 47 47 R->F: 95% REDUCTION IN ACTIVITY.
 FT MUTAGEN 50 50 S->Q: 40% REDUCTION IN ACTIVITY.
 FT MUTAGEN 51 51 Y->D: LOSS OF ACTIVITY.
 FT MUTAGEN 53 53 R->L: LOSS OF ACTIVITY.
 FT MUTAGEN 91 91 D->L: 90% REDUCTION IN ACTIVITY.
 SQ SEQUENCE 99 AA; 11025 MW; 5355B695 CRC32;
 Query Match 96.9%; Score 93; DB 1; Length 99;
 Best Local Similarity 91.7%; Pred. No. 3.40e-09;
 Matches 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
 Db 73 EICADPKQKWKQ 84
 Qy 1 EICADPKQKWKQ 12
 |||||:||||
 |||||:||||
 RESULT 3
 ID MCP1_CANFA STANDARD; PRT; 101 AA.
 AC P52203;
 DT 01-OCT-1996 (REL. 34, CREATED)
 DT 01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)
 DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
 DE MONOCYTE CHEMOTACTIC PROTEIN 1 PRECURSOR (MCP-1) (MONOCYTE
 DE CHEMOATTRACTANT PROTEIN-1).
 GN SCY2 OR MCP1.
 OS CANIS FAMILIARIS (DOG).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC CARNIVORA; FISSIPEDIA; CANIDAE; CANIS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE-JUGULAR VEIN ENDOTHELIAL;
 RX MEDLINE; 97176620.
 RA KUMAR A.G., BALLANTYNE C.M., MICHAEL L.H., KUKIELKA G.L., YOKER K.A.,
 RA LINDSEY M.L., HAWKINS H.K., BIRDSALL H.H., MACKAY C.R., LAROSA G.J.,
 RA ROSSEN R.D., SMITH C.W., ENTMAN M.L.;
 RT "Induction of monocyte chemoattractant protein-1 in the small veins
 RT of the ischemic and reperused canine myocardium";
 RL CIRCULATION 95:693-700(1997).
 CC -!- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES, BUT NOT
 CC NEUTROPHILS. IMPORTANT FACTOR IN THE COURSE OF THE INFLAMMATORY
 CC REACTION TO REPERFUSION OF THE PREVIOUSLY ISCHEMIC MYOCARDIUM.
 CC MAY PLAY A SIGNIFICANT ROLE IN MONOCYTE TRAFFICKING INTO THE
 CC REPERFUSED MYOCARDIUM.
 CC -!- SUBUNIT: MONOMER OR HOMODIMER. IN EQUILIBRIUM (BY SIMILARITY).

CC -!- INDUCTION: BY TNF-ALPHA.
 CC -!- TISSUE SPECIFICITY: ENDOTHELIUM OF SMALL VEINS AND INTRAFASCICULAR
 CC VEINS, AND INFILTRATING LEUKOCYTES.
 CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
 CC C-C) (CHEMOKINE CC).
 CC -----
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DR EMBL; U29553; G1144186; -.
 DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
 DR PFAM; PF00048; i18; 1.
 DR HSSP; P13500; 1DON.
 KW CYTOKINE; CHEMOTAXIS; SIGNAL; INFLAMMATORY RESPONSE.
 FT SIGNAL 1 23 BY SIMILARITY.
 FT CHAIN 24 101 MONOCYTE CHEMOTACTIC PROTEIN 1.
 FT MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID (BY
 FT SIMILARITY).
 FT DISULFID 34 59 BY SIMILARITY.
 FT DISULFID 35 75 BY SIMILARITY.
 SQ SEQUENCE 101 AA; 11121 MW; A7075B14 CRC32;

Query Match 96.9%; Score 93; DB 1; Length 101;
 Best Local Similarity 91.7%; Pred. No. 3.40e-09;
 Matches 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Db 73 EICADPKKQWQ 84
 |||||:||||
 Qy 1 EICADPKKQWQ 12

RESULT 4
 ID MCPL_PIG STANDARD; PRT; 99 AA.
 AC P42831;
 DT 01-NOV-1995 (REL. 32, CREATED)
 DT 01-NOV-1995 (REL. 32, LAST SEQUENCE UPDATE)
 DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
 DE MONOCYTE CHEMOTACTIC PROTEIN 1 PRECURSOR (MCP-1).
 GN SCY2.
 OS SCROFA (PIG).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC ARTIODACTILA; SULIFORMES; SUINA; SUIDAE; SUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 94183284.
 RA HOSANG K., KNOKE I., KLAUDINY J., WEMPE F., WUTTKE W., SCHEIT K.H.;
 RT "Porcine luteal cells express monocyte chemoattractant protein-1
 (MCP-1): analysis by polymerase chain reaction and cDNA cloning.";
 RL BIOCHEM. BIOPHYS. RES. COMMUN. 199:962-968(1994).
 RN [2]
 RP SEQUENCE FROM N.A.
 RC TISSUE-BRAIN;
 RA ZACH O.R.F.;
 RL SUBMITTED (JUL-1994) TO EMBL/GENBANK/DBJ DATA BANKS.
 CC -!- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES, BUT NOT
 CC NEUTROPHILS.
 CC -!- SUBUNIT: MONOMER OR HOMODIMER; IN EQUILIBRIUM (BY SIMILARITY).
 CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
 CC C-C) (CHEMOKINE CC).
 CC -----

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DR EMBL; Z48479; G683717; -.
 DR EMBL; X79416; G872313; -.
 DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
 DR PFAM; PF00048; i18; 1.
 DR HSSP; P13500; 1DON.
 KW CYTOKINE; CHEMOTAXIS; SIGNAL; INFLAMMATORY RESPONSE.
 FT SIGNAL 1 23 BY SIMILARITY.
 FT CHAIN 24 99 MONOCYTE CHEMOTACTIC PROTEIN 1.
 FT MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID (BY
 FT SIMILARITY).
 FT DISULFID 34 59 BY SIMILARITY.
 FT DISULFID 35 75 BY SIMILARITY.
 SQ SEQUENCE 99 AA; 10976 MW; ECC3AFB4 CRC32;

Query Match 95.8%; Score 92; DB 1; Length 99;
 Best Local Similarity 83.3%; Pred. No. 6.13e-09;
 Matches 10; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Db 73 EICADPKKQWQ 84
 |||||:||||
 Qy 1 EICADPKKQWQ 12

RESULT 5
 ID MCP2_BOVIN STANDARD; PRT; 99 AA.
 AC Q09141;
 DT 01-NOV-1995 (REL. 32, CREATED)
 DT 01-NOV-1995 (REL. 32, LAST SEQUENCE UPDATE)
 DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
 DE MONOCYTE CHEMOTACTIC PROTEIN 2 PRECURSOR (MCP-2) (MONOCYTE
 DE CHEMOATTRACTANT PROTEIN 2).
 GN SCY28 OR MCP2.
 OS SCYTA8 (BOVINE).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC ARTIODACTILA; RUMINANTIA; PECORA; BOVIDAE; BOVINAE; BOS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 94114084.
 RA WEMPE F., HANES J., SCHEIT K.H.;
 RT "Cloning of the gene for bovine monocyte chemoattractant protein-2";
 RL DNA CELL BIOL. 13:1-8(1994).
 CC -!- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES. THIS PROTEIN
 CC CAN BIND HEPARIN.
 CC -!- SUBUNIT: MONOMER OR HOMODIMER; IN EQUILIBRIUM (BY SIMILARITY).
 CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
 CC C-C) (CHEMOKINE CC).
 CC -----

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 CC -----

DR EMBL; S67954; E118856; -.
 DR EMBL; S67956; G544997; -.
 DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
 DR PFAM; PF00048; i18; 1.
 DR HSSP; P80098; 1NCV.
 KW CYTOKINE; CHEMOTAXIS; SIGNAL; HEPARIN-BINDING; INFLAMMATORY RESPONSE.
 FT SIGNAL 1 23 BY SIMILARITY.
 FT CHAIN 24 99 MONOCYTE CHEMOTACTIC PROTEIN 2.
 FT MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID (BY
 FT SIMILARITY).
 FT DISULFID 34 59 BY SIMILARITY.
 FT DISULFID 35 75 BY SIMILARITY.
 SQ SEQUENCE 99 AA; 10900 MW; 9BA2CD26 CRC32;

Query Match 93.8%; Score 90; DB 1; Length 99;
 Best Local Similarity 75.0%; Pred. No. 1.98e-08;
 Matches 9; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

Db 73 DVCADPKQKWQ 84
:|||||:|||||
QY 1 EICADPKQKWQ 12

```

RESULT 6
ID EOTA_MOUSE STANDARD; PRT; 97 AA.
AC P48298;
DT 01-FEB-1996 (REL. 33, CREATED)
DT 01-FEB-1996 (REL. 33, LAST SEQUENCE UPDATE)
DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
DE EOTAXIN PRECURSOR (EOSINOPHIL CHEMOTACTIC PROTEIN).
GN SCY11.
OS MUS MUSCULUS (MOUSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; MUS.
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE: 96004658.
RA ROTHENBERG M.E., LUSTER A.D., LEDER P.;
RT "Murine eotaxin: an eosinophil chemoattractant inducible in
RT endothelial cells and in interleukin 4-induced tumor suppression.";
RL PROC. NATL. ACAD. SCI. U.S.A. 92:8960-8964(1995).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=C57BL/6J; TISSUE=LUNG;
RX MEDLINE: 96158746.
RA GONZALEZ J.-A., JIA G.-Q., AGUIRRE V., FRIEND D., COYLE A.J.,
RA JENKINS N.A., LIN G.-S., KATZ H., LICHTMAN A., COPELAND N.G., KOPF M.,
RA GUTIERREZ-RAMOS J.-C.;
RT "Mouse eotaxin expression parallels eosinophil accumulation during
RT lung allergic inflammation but it is not restricted to a Th2-type
RT response.";
RL IMMUNITY 4:1-14(1996).
CC -!- FUNCTION: IN RESPONSE TO THE PRESENCE OF ALLERGENS, THIS PROTEIN
CC DIRECTLY PROMOTES THE ACCUMULATION OF EOSINOPHILS (A PROMINENT
CC FEATURE OF ALLERGIC INFLAMMATORY REACTIONS), BUT NOT
CC LYMPHOCYTES, MACROPHAGES OR NEUTROPHILS.
CC -!- SUBCELLULAR LOCATION: EXTRACELLULAR.
CC -!- TISSUE SPECIFICITY: EXPRESSED CONSTITUTIVELY IN THE THYMUS.
CC EXPRESSION INDUCIBLE IN THE LUNG (TYPE I ALVEOLAR EPITHELIAL
CC CELLS), INTESTINE, HEART, SPLEEN, KIDNEY.
CC -!- INDUCTION: BY INTERFERON-GAMMA AND LIPOPOLYSACCHARIDE (LPS).
CC -!- PPM: O-GLYCOSYLATED (PROBABLE).
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
CC C-C) (CHEMOKINE CC).
CC
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CC
CC EMBL: U26426; G995911; -.
CC EMBL: U40672; G1113937; -.
CC MGD: MGI:103576; SCY11.
CC DR PROSITE: PS00472; SMALL_CYTOKINES_CC; 1.
CC DR PFAM: PF00048; 118; 1.
CC HSSP: P80098; 1NCV.
CC EOSINOPHIL; CYTOKINE; CHEMOTAXIS; GLYCOPROTEIN; SIGNAL;
CC INFLAMMATORY RESPONSE.
CC SIGNAL 1 23 POTENTIAL.
CC CHAIN 24 97 EOTAXIN.
CC FT DISULFID 32 57 BY SIMILARITY.
CC FT DISULFID 33 73 BY SIMILARITY.
CC FT CARBOHYD 94 94 POTENTIAL.
CC FT CONFLICT 3 3 L -> S (IN REF. 2).
CC SQ SEQUENCE 97 AA; 10893 MW; F85A96BC CRC32;
CC
CC Query Match 92.7%; Score 89; DB 1; Length 97;
CC Best Local Similarity 91.7%; Pred. No. 3.55e-08;
CC Matches 11; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

```

Db 71 EICADPKKQWQ 82
|||||||:|||||
QY 1 EICADPKKQWQ 12

```

RESULT 7
ID EOTA_MOUSE STANDARD; PRT; 97 AA.
AC P97545; O08780;
DT 15-JUL-1998 (REL. 36, CREATED)
DT 15-JUL-1998 (REL. 36, LAST SEQUENCE UPDATE)
DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
DE EOTAXIN PRECURSOR (EOSINOPHIL CHEMOTACTIC PROTEIN).
GN SCY11.
OS RATIUS NORVEGICUS (RAT).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; RATTUS.
RN [1]
RP SEQUENCE FROM N.A.
RA WILLIAMS C.M., NEWTON D.J., WILSON S.A., COLEMAN J.C.,
RA FLANAGAN B.F.;
RL SUBMITTED (DEC-1996) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [2]
RP SEQUENCE FROM N.A.
RC TISSUE=LUNG;
RA ISHII Y.;
RL SUBMITTED (MAY-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
CC -!- FUNCTION: IN RESPONSE TO THE PRESENCE OF ALLERGENS, THIS PROTEIN
CC DIRECTLY PROMOTES THE ACCUMULATION OF EOSINOPHILS, A PROMINENT
CC FEATURE OF ALLERGIC INFLAMMATORY REACTIONS (BY SIMILARITY).
CC -!- SUBCELLULAR LOCATION: EXTRACELLULAR.
CC -!- PPM: O-GLYCOSYLATED (PROBABLE).
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
CC C-C) (CHEMOKINE CC).
CC
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CC use by non-profit institutions as long as its content is in no way
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CC or send an email to license@isb-sib.ch).
CC
CC EMBL: Y08358; E274141; -.
CC DR EMBL: U96637; G2098785; -.
CC DR PROSITE: PS00472; SMALL_CYTOKINES_CC; 1.
CC DR PFAM: PF00048; 118; 1.
CC HSSP: P80098; 1NCV.
CC EOSINOPHIL; CYTOKINE; CHEMOTAXIS; GLYCOPROTEIN; SIGNAL;
CC INFLAMMATORY RESPONSE.
CC SIGNAL 1 23 POTENTIAL.
CC CHAIN 24 97 EOTAXIN.
CC FT DISULFID 32 57 BY SIMILARITY.
CC FT DISULFID 33 73 BY SIMILARITY.
CC FT CARBOHYD 94 94 POTENTIAL.
CC FT CONFLICT 3 3 L -> S (IN REF. 2).
CC SQ SEQUENCE 97 AA; 10851 MW; 05B4ED45 CRC32;
CC
CC Query Match 92.7%; Score 89; DB 1; Length 97;
CC Best Local Similarity 91.7%; Pred. No. 3.55e-08;
CC Matches 11; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

```

Db 71 EICADPKKQWQ 82
|||||||:|||||
QY 1 EICADPKKQWQ 12

```

RESULT 8
ID MCP5_MOUSE STANDARD; PRT; 104 AA.
AC Q62401;
DT 01-NOV-1997 (REL. 35, CREATED)
DT 01-NOV-1997 (REL. 35, LAST SEQUENCE UPDATE)
DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
DE MONOCYTE CHEMOTACTIC PROTEIN 5 PRECURSOR (MCP-5) (MCP-1 RELATED

```


CC C-C) (CHEMOKINE CC).

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CC -----

DR EMBL; U46573; G1280141; -

DR EMBL; U34780; G1185440; -

DR EMBL; U49372; G1552241; -

DR EMBL; Z69291; E221070; -

DR EMBL; Z75668; E251275; -

DR EMBL; Z75669; E351258; -

DR EMBL; U46572; G2088509; -

DR EMBL; Z92709; E329504; -

DR MIN; 601156; -

DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.

DR PFAM; PF00048; i18; 1.

DR PDB; 2EOT; 11-NOV-98.

DR EOSINOPHIL; CYTOKINE; CHEMOTAXIS; GLYCOPROTEIN; SIGNAL;

KW INFLAMMATORY RESPONSE; POLYMORPHISM; 3D-STRUCTURE.

FT SIGNAL 1 23

FT CHAIN 24 97 BOTAXIN.

FT DISULFID 32 57

FT DISULFID 33 73

FT VARIANT 7 7 L -> P (IN CLONE 34).

FT VARIANT 23 23 A -> T (IN CLONE 53).

FT VARIANT 51 51 R -> S (IN CLONE 34).

FT VARIANT 79 79 K -> R (IN CLONE 53).

SQ SEQUENCE 97 AA; 10732 MW; 6C0F3D98 CRC32;

Query Match 91.7%; Score 88; DB 1; Length 97;

Best Local Similarity 83.3%; Pred. No. 6.34e-08;

Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 71 DICADPKKKWQ 82

QY 1 EICADPKKKWQ 12

RESULT 10

ID MCPA_BOVIN STANDARD; PRT; 99 AA.

AC P28291.

DT 01-DEC-1992 (REL. 24, CREATED)

DT 01-DEC-1992 (REL. 24, LAST SEQUENCE UPDATE)

DT 01-NOV-1995 (REL. 32, LAST ANNOTATION UPDATE)

DE MONOCYTE CHEMOTACTIC PROTEIN 1A PRECURSOR (MCP-1A) (ACIDIC

DE SEMINAL FLUID PROTEIN).

OS BOS TAURUS (BOVINE).

OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;

OC ARTIODACTYLIA; RUMINANTIA; PECORA; BOVOIDEA; BOVINAE; BOS.

RN [1]

RP SEQUENCE FROM N.A.

RC TISSUE-SEMINAL PLASMA;

RX MEDLINE; 92096117.

RA WEMPE F., HENSCHEN A., SCHEIT K.H.;

RT "Gene expression and cDNA cloning identified a major basic protein

RT constituent of bovine seminal plasma as bovine

RT monocyte-chemoattractant protein-1 (MCP-1).";

RL DNA CELL BIOL. 10:671-679(1991).

RN [2]

RP SEQUENCE FROM N.A.

RC TISSUE-SEMINAL PLASMA;

RX MEDLINE; 92181448.

RA WEMPE F., EINSPIANER R., SCHEIT K.H.;

RT "Characterization by cDNA cloning of the mRNA of a new growth factor

RT from bovine seminal plasma: acidic seminal fluid protein.";

RL BIOCHEM. BIOPHYS. RES. COMMUN. 183:232-237(1992).

RN [3]

RP SEQUENCE FROM N.A.

RX MEDLINE; 9438337.

RA WEMPE F., KUHLMANN J.K., SCHEIT K.H.;

RT "Characterization of the bovine monocyte chemoattractant protein-1

RT gene.";

RL BIOCHEM. BIOPHYS. RES. COMMUN. 202:1272-1279(1994).

CC -1- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES, BUT NOT

CC NEUTROPHILS.

CC -1- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE

CC C-C) (CHEMOKINE CC).

CC -----

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CC -----

DR EMBL; L32659; G624394; -

DR EMBL; M84602; G163395; -

DR PIR; A39296; A39296.

DR PIR; JC2336; JC2336.

DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.

DR PFAM; PF00048; i18; 1.

DR HSSP; P13500; 1DON.

KW CYTOKINE; CHEMOTAXIS; SIGNAL.

FT SIGNAL 1 23

FT CHAIN 24 99 MONOCYTE CHEMOTACTIC PROTEIN 1A.

FT MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID (BY

FT DISULFID 34 59 SIMILARITY).

FT DISULFID 35 75 BY SIMILARITY.

FT SEQUENCE 99 AA; 11114 MW; C8F5821D CRC32;

Query Match 91.7%; Score 88; DB 1; Length 99;

Best Local Similarity 83.3%; Pred. No. 6.34e-08;

Matches 10; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Db 73 ELCADPKKKWQ 84

QY 1 EICADPKKKWQ 12

RESULT 11

ID IL8_CANFA STANDARD; PRT; 101 AA.

AC P41324.

DT 01-FEB-1995 (REL. 31, CREATED)

DT 01-FEB-1995 (REL. 31, LAST SEQUENCE UPDATE)

DT 15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)

DE INTERLEUKIN-8 PRECURSOR (IL-8).

GN IL8

OS CANIS FAMILIARIS (DOG).

OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;

OC CARNIVORA; FISSIPEDIA; CANIDAE; CANIS.

RN [1]

RP SEQUENCE FROM N.A.

RX MEDLINE; 94010328.

RA ISHIKAWA J., SUZUKI S., HOTTA K., HIROTA Y., MIZUNO S., SUZUKI K.;

RT "Cloning of a canine gene homologous to the human

RT interleukin-8-encoding gene.";

RL GENE 131:305-306(1993).

RN [2]

RP SEQUENCE FROM N.A.

RC TISSUE-LYMPH NODE;

RX MEDLINE; 95127913.

RA MATSUMOTO Y., MOHAMED A., ONODERA T., KATO H., OHASHI T.,

RA GOITSUKA R., TSUJIMOTO H., HASEGAWA A., FURUSAWA S., YOSHIMURA K.,

RA ISHIKAWA J., HOTTA K., SUZUKI K., HIROTA Y.;

RT "Molecular cloning and expression of canine interleukin 8 cDNA.";

RL CYTOKINE 6:455-461(1994).

RN [3]

RP SEQUENCE FROM N.A.

RC STRAIN-MONGREL; TISSUE-JUGULAR VEIN;

RX MEDLINE; 95114148.
 RA KUKIELKA G.L., SMITH W.C., LAROSA G.J., MANNING A.M.,
 RA MENDOZA L.H., DALY T.J., HUGHES B.J., YOUNKER K.A., HAWKINS H.K.,
 RA MICHAEL L.H., ROT A., ENTMAN M.L.;
 RT "Interleukin-8 gene induction in the myocardium after ischemia and
 RT reperfusion in vivo";
 RL J. CLIN. INVEST. 95:89-103(1994).
 RN [4]
 RP SEQUENCE FROM N.A.
 RC STRAIN-BEAGLE;
 RX MEDLINE; 97230298.
 RA STRAUBINGER R.K., STRAUBINGER A.F., HARTER L., JACOBSON R.H.,
 RA CHANG Y.-F., SUMMERS B.A., ERB H.N., APPEL M.J.;
 RT "Borrelia burgdorferi migrates into joint capsules and causes an up-
 RT regulation of interleukin-8 in synovial membranes of dogs
 RT experimentally infected with ticks";
 RL INFECT. IMMUN. 65:1273-1285(1997).
 CC -!- FUNCTION: IL-8 IS A CHEMOTACTIC FACTOR THAT ATTRACTS NEUTROPHILS,
 CC BASOPHILS, AND T-CELLS, BUT NOT MONOCYTES. IT IS ALSO INVOLVED IN
 CC NEUTROPHIL ACTIVATION. IT IS RELEASED FROM SEVERAL CELL TYPES IN
 CC RESPONSE TO AN INFLAMMATORY STIMULUS.
 CC -!- SUBUNIT: HOMODIMER.
 CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
 CC C-X-C) (CHEMOKINE CXCL).
 CC -----
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 CC -----
 DR EMBL; D28772; G517100; -.
 DR EMBL; D14285; G475152; -.
 DR EMBL; U10308; G607814; -.
 DR EMBL; AF048717; G2935472; -.
 DR PFAM; PF00048; i18; 1.
 DR HSP; P10145; i1KL.
 DR CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.
 FT SIGNAL 1 22 BY SIMILARITY.
 FT CHAIN 23 101 INTERLEUKIN-8.
 FT DISULFID 34 61 BY SIMILARITY.
 FT DISULFID 36 77 BY SIMILARITY.
 SQ SEQUENCE 101 AA; 11280 MW; 7649D62D CRC32;
 Query Match 90.6%; Score 87; DB 1; Length 101;
 Best Local Similarity 83.3%; Pred. No. 1.13e-07;
 Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
 Db 75 EVCLDPKKEKWKQ 86
 QY 1 EICADPKKEKWKQ 12
 RESULT 12
 ID IL8 SHEEP STANDARD; PRT; 101 AA.
 AC P35925;
 DT 01-JUN-1994 (REL. 29, CREATED)
 DT 01-JUN-1994 (REL. 29, LAST SEQUENCE UPDATE)
 DT 01-NOV-1995 (REL. 32, LAST ANNOTATION UPDATE)
 DE INTERLEUKIN-8 PRECURSOR (IL-8).
 GN IL8.
 OS OVIS ARIES (SHEEP).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC ARTIODACTYLA; RUMINANTIA; PECORA; BOVIDAE; CAPRINAE; OVIS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 95121931.
 RA LEGASTELOIS I., GREENLAND T., ARNAUD P., MORNEX J.F., CORDIER G.;
 RT "Sequencing of the ovine interleukin-8-encoding cDNA using the
 RT polymerase chain reaction."

RL GENE 150:367-369(1994).
 RN [2]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 95137691.
 RA SEOW H.F., YOSHIMURA T., WOOD P.R., COLDITZ I.G.;
 RT "Cloning, sequencing, expression and inflammatory activity in skin of
 RT ovine interleukin-8";
 RL IMMUNOL. CELL BIOL. 72:398-405(1994).
 CC -!- FUNCTION: IL-8 IS A CHEMOTACTIC FACTOR THAT ATTRACTS NEUTROPHILS,
 CC BASOPHILS, AND T-CELLS, BUT NOT MONOCYTES. IT IS ALSO INVOLVED IN
 CC NEUTROPHIL ACTIVATION. IT IS RELEASED FROM SEVERAL CELL TYPES IN
 CC RESPONSE TO AN INFLAMMATORY STIMULUS.
 CC -!- SUBUNIT: HOMODIMER.
 CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
 CC C-X-C) (CHEMOKINE CXCL).
 CC -----
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 CC -----
 DR EMBL; X78306; G463254; -.
 DR EMBL; S74436; G786591; -.
 DR PIR; S42496; S42496.
 DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
 DR PFAM; PF00048; i18; 1.
 DR HSP; P10145; i1KL.
 DR CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.
 FT SIGNAL 1 22 BY SIMILARITY.
 FT CHAIN 23 101 INTERLEUKIN-8.
 FT DISULFID 34 61 BY SIMILARITY.
 FT DISULFID 36 77 BY SIMILARITY.
 SQ SEQUENCE 101 AA; 11292 MW; 5A574527 CRC32;
 Query Match 90.6%; Score 87; DB 1; Length 101;
 Best Local Similarity 83.3%; Pred. No. 1.13e-07;
 Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
 Db 75 EVCLDPKKEKWKQ 86
 QY 1 EICADPKKEKWKQ 12
 RESULT 13
 ID IL8 PIG STANDARD; PRT; 103 AA.
 AC P26894; P22951;
 DT 01-AUG-1991 (REL. 19, CREATED)
 DT 01-AUG-1992 (REL. 23, LAST SEQUENCE UPDATE)
 DT 01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)
 DE INTERLEUKIN-8 PRECURSOR (IL-8) (ALVEOLAR MACROPHAGE CHEMOTACTIC FACTOR
 DE I) (AMCF-I).
 GN IL8.
 OS SUS SCROFA (PIG).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC ARTIODACTYLA; SUIFORMES; SUINA; SUIDAE; SUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 94103307.
 RA LIN G., PEARSON A.E., SCAMURRA R.W., ZHOU Y., BAARSCH M.J.,
 RA WEISS D.J., MURTAUGH M.P.;
 RT "Regulation of interleukin-8 expression in porcine alveolar
 RT macrophages by bacterial lipopolysaccharide";
 RL J. BIOL. CHEM. 269:77-85(1994).
 RN [2]
 RP SEQUENCE FROM N.A.
 RA SANJANWALA M.;
 RL SUBMITTED (JUL-1991) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [3]
 RP SEQUENCE FROM N.A., AND SEQUENCE OF 26-45.
 RC TISSUE=LUNG;

WIREH

(TM)

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MPSrch_pp protein - protein database search, using Smith-Waterman algorithm

Run on: Fri Feb 4 17:38:11 2000; MasPar time 3.54 Seconds
72.063 Million cell updates/sec

Tabular output not generated.

Title: >US-09-150-813-65
Description: (1-12) from US09150813.pep
Perfect Score: 96
Sequence: 1 EICADPKKWWQ 12

Scoring table: PAM 150
Gap 15

Searched: 170751 seqs, 21266608 residues

Post-processing: Minimum Match 0%
Listing first 45 summaries

Database: a-geneseq35

1:part1 2:part2 3:part3 4:part4 5:part5 6:part6 7:part7
8:part8 9:part9 10:part10 11:part11 12:part12 13:part13
14:part14 15:part15 16:part16 17:part17 18:part18
19:part19 20:part20 21:part21 22:part22 23:part23
24:part24 25:part25 26:part26 27:part27 28:part28
29:part29 30:part30 31:part31 32:part32 33:part33
34:part34 35:part35 36:part36 37:part37 38:part38
39:part39

Statistics: Mean 18.485; Variance 66.275; scale 0.279

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match | Length | ID | Description | Pred. No. |
|------------|-------|-------------|--------|----|-----------------------|-----------|
| 1 | 96 | 100.0 | 71 | 26 | Drol3+ chemokine beta | 1.33e-02 |
| 2 | 96 | 100.0 | 75 | 31 | Chemokine MCP-4 prote | 1.33e-02 |
| 3 | 96 | 100.0 | 75 | 26 | Bac 3 chemokine betal | 1.33e-02 |
| 4 | 96 | 100.0 | 77 | 26 | Bac 2 chemokine betal | 1.33e-02 |
| 5 | 96 | 100.0 | 79 | 26 | Drol1/2 chemokine bet | 1.33e-02 |
| 6 | 96 | 100.0 | 82 | 24 | Stem cell mobilising | 1.33e-02 |
| 7 | 96 | 100.0 | 82 | 26 | Bac 1 chemokine betal | 1.33e-02 |
| 8 | 96 | 100.0 | 98 | 31 | Human monocyte chemo | 1.33e-02 |
| 9 | 96 | 100.0 | 98 | 26 | Human chemokine betal | 1.33e-02 |
| 10 | 96 | 100.0 | 98 | 28 | Monocyte chemotactic | 1.33e-02 |
| 11 | 96 | 100.0 | 98 | 17 | Human chemokine beta | 1.33e-02 |
| 12 | 93 | 96.9 | 66 | 24 | Monocyte chemoattract | 2.71e-02 |
| 13 | 93 | 96.9 | 67 | 24 | Monocyte chemoattract | 2.71e-02 |
| 14 | 93 | 96.9 | 68 | 24 | Monocyte chemoattract | 2.71e-02 |
| 15 | 93 | 96.9 | 69 | 14 | Des(2-8) MCP-1. | 2.71e-02 |
| 16 | 93 | 96.9 | 69 | 24 | Monocyte chemoattract | 2.71e-02 |

| | | | | | | | |
|----|----|------|-----|----|--------|-----------------------|----------|
| 17 | 93 | 96.9 | 76 | 5 | R28660 | MCF. | 2.71e-02 |
| 18 | 93 | 96.9 | 76 | 30 | W40175 | Macrophage chemoattra | 2.71e-02 |
| 19 | 93 | 96.9 | 76 | 14 | R87677 | (3-Ala) MCP-1. | 2.71e-02 |
| 20 | 93 | 96.9 | 76 | 1 | P90292 | Peptide from human gl | 2.71e-02 |
| 21 | 93 | 96.9 | 76 | 14 | R87676 | (24-Arg) MCP-1. | 2.71e-02 |
| 22 | 93 | 96.9 | 76 | 14 | R87680 | Monocyte chemotactic | 2.71e-02 |
| 23 | 93 | 96.9 | 76 | 21 | W11131 | Mature human monocyte | 2.71e-02 |
| 24 | 93 | 96.9 | 76 | 10 | R53398 | Sense MCP-1. | 2.71e-02 |
| 25 | 93 | 96.9 | 76 | 14 | R87675 | (28-Asp) MCP-1. | 2.71e-02 |
| 26 | 93 | 96.9 | 76 | 20 | W09374 | Monocyte chemotactic | 2.71e-02 |
| 27 | 93 | 96.9 | 77 | 15 | R86859 | Mature MCP-1. | 2.71e-02 |
| 28 | 93 | 96.9 | 99 | 30 | W40174 | Macrophage chemoattra | 2.71e-02 |
| 29 | 93 | 96.9 | 99 | 13 | R70800 | Chemoattractant prote | 2.71e-02 |
| 30 | 93 | 96.9 | 99 | 5 | R28663 | MCF. | 2.71e-02 |
| 31 | 93 | 96.9 | 99 | 14 | R73914 | Human monocyte chemoa | 2.71e-02 |
| 32 | 93 | 96.9 | 99 | 2 | P95387 | Human monocyte chemo- | 2.71e-02 |
| 33 | 89 | 92.7 | 99 | 2 | R06398 | Human MCF precursor. | 6.93e-02 |
| 34 | 89 | 92.7 | 104 | 31 | W56088 | Murine monocyte chemo | 6.93e-02 |
| 35 | 89 | 92.7 | 104 | 31 | W57322 | Mouse monocyte chemot | 6.93e-02 |
| 36 | 88 | 91.7 | 76 | 5 | R26580 | Sequence of bovine P6 | 8.76e-02 |
| 37 | 88 | 91.7 | 82 | 29 | W44721 | Amino acid sequence o | 8.76e-02 |
| 38 | 88 | 91.7 | 97 | 21 | W00667 | Pancreas expressed ch | 8.76e-02 |
| 39 | 88 | 91.7 | 97 | 23 | W10099 | Human eotaxin. | 8.76e-02 |
| 40 | 88 | 91.7 | 97 | 24 | W14990 | Human eosinocyte CC t | 8.76e-02 |
| 41 | 88 | 91.7 | 99 | 5 | R26581 | Sequence of P6 precu | 8.76e-02 |
| 42 | 86 | 89.6 | 67 | 14 | R73915 | Human monocyte chemoa | 1.40e-01 |
| 43 | 86 | 89.6 | 99 | 13 | R70801 | Chemoattractant prote | 1.40e-01 |
| 44 | 86 | 89.6 | 109 | 2 | R24353 | Cytokine encoded by c | 1.40e-01 |
| 45 | 85 | 88.5 | 109 | 26 | W26655 | Human beta-chemokine | 1.76e-01 |

ALIGNMENTS

RESULT 1
ID W22675 standard; Protein; 71 AA.
AC W22675;
DT 19-MAR-1998 (first entry)
DE Drol3+ chemokine beta10 or monocyte chemotactic protein 4 variant.
KW Human; chemokine beta10; Ck beta10; treatment; antagonist;
KW solid tumour; infection; autoimmune disease; asthma; antibody;
KW fibrotic disease; psoriasis; neurodegenerative disease;
KW wound healing; haematopoiesis regulation; gene therapy;
KW chromosome identification; monocyte chemotactic protein 4;
KW leukaemia; MCP-4; Drol3+ variant.
OS Homo sapiens.
PN W09731098-A1.
PD 28-AUG-1997.
PF 23-FEB-1996; U02598.
PR 23-FEB-1996; WO-U02598.
PA (HUMA-) HUMAN GENOME SCI INC.
PI Adams M, Alderson R, Applebaum E, Li H, Li Y, Lima SH,
PI Parmelee D, White J;
DR WPI: 97-435153/40.
PT Polypeptide encoding chemokine beta 4 and monocyte chemotactic
PT protein 4 - useful to treat tumours, autoimmune disease, infection,
PT asthma and fibrosis
PS Example 11; Fig 5; 83pp; English.
CC The present sequence is human chemokine beta10 (Ck beta10) or
CC monocyte chemotactic protein 4 (MCP-4) Drol3+ variant, which can
CC be used to treat patients deficient in Ck beta10, while a Ck beta10
CC antagonist can be used to reduce excessive levels of Ck beta10. Ck
CC beta10 can be used to treat leukaemia, solid tumours, chronic or
CC opportunistic infections, autoimmune diseases, asthma, fibrotic
CC diseases, psoriasis and neurodegenerative diseases. It also
CC promotes wound healing, regulates haematopoiesis and generates
CC antibodies. Labelled Ck beta10 can be used to identify its cognate
CC receptor, while cells expressing the receptor can be used to screen
CC compounds for (ant)agonist activity. The antagonist can be used to
CC treat rheumatoid arthritis, autoimmune, chronic inflammatory or
CC infectious diseases, allergies, prostaglandin dependent fever and
CC bone marrow failure, silicosis, sarcoidosis, hyper-eosinophilic
CC syndrome, lung inflammation and atherosclerosis. Ck beta10 cDNA can
CC be used to isolate genes encoding similar peptides, in gene therapy

CC and for chromosome identification.
SQ Sequence 71 AA;

Query Match 100.0%; Score 96; DB 26; Length 71;
Best Local Similarity 100.0%; Pred. No. 1.33e-02;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 45 eicadpkekwwq 56
|||||
QY 1 EICADPKEKWQ 12

RESULT 2
ID W56690 standard; Protein: 75 AA.
AC W56690;
DE 23-JUL-1998 (first entry)
DE Chemokine MCP-4 protein sequence.
KW MCP-4; MCP-4 receptor; antagonist; agonist; inflammatory disease;
KW viral; bacterial; parasite; infection; allergic reaction;
KW asthmatic; atherosclerosis; arthritis; chemokine.
OS Homo sapiens.
PN WO9809171-Al.
PD 05-MAR-1998.
PF 27-AUG-1997; G02313.
PR 28-AUG-1996; GB-017923.
PA (SMIK) SMITHKLINE BEECHAM CORP.
PA (SMIK) SMITHKLINE BEECHAM PLC.
PI Bergsma D, Berkhout T, Elshourbagy N, Groot PHE,
PI White J;
DR WPI: 98-179584/16.
PT Use of the chemokine MCP-4 receptor - for identifying agonists or
PT antagonists which can be used for treating e.g. infections, allergic
PT and asthmatic reactions, atherosclerosis and arthritis
PS Disclosure; Fig 2; 25pp; English.
CC This is the chemokine MCP-4 sequence that can be used in screening
CC methods for identifying MCP-4 receptor antagonists and agonists. MCP-4
CC receptor agonists can be identified by contacting a compound with MCP-4
CC receptor and measuring the change in a functional response or a second
CC messenger system associated with the receptor. MCP-4 receptor
CC antagonists can be identified using the MCP-4 receptor in combination
CC with the chemokine MCP-4 which may be labelled or unlabelled. The MCP-4
CC receptor is expressed on the surface of a host cell or in a membrane
CC preparation and is used in the form of the isolated protein. It is
CC prepared by transfecting a mammalian cell line with an expression vector
CC comprising a nucleic acid sequence encoding the MCP-4 receptor, and
CC culturing the cell line in a culture medium. Susceptibility to disease
CC states associated with abnormal expression of the MCP-4 receptor can be
CC diagnosed by measuring the level of MCP-4 and/or MCP-3 in a sample taken
CC from a patient. Neutralising antibodies to the MCP-4 receptor can be
CC identified using MCP-4, MCP-3, RANTES, MCP-2, MCP-1 or eotaxin. The
CC agonists and antagonists identified can be used for treating disease
CC states associated with the MCP-4 receptor, e.g. inflammatory states
CC arising from viral, bacterial and parasitic infection, allergic and
CC asthmatic reactions, atherosclerosis and arthritis. The products can also
CC be used for detection and diagnosis.
SQ Sequence 75 AA;

Query Match 100.0%; Score 96; DB 31; Length 75;
Best Local Similarity 100.0%; Pred. No. 1.33e-02;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 49 eicadpkekwwq 60
|||||
QY 1 EICADPKEKWQ 12

RESULT 3
ID W22673 standard; Protein: 75 AA.
AC W22673;
DE 19-MAR-1998 (first entry)
DE Bac 3 chemokine beta10 or monocyte chemotactic protein 4 variant.
KW Human; chemokine beta10; Ck beta10; treatment; antagonist;
KW solid tumour; infection; autoimmune disease; asthma; antibody;
KW fibrotic disease; psoriasis; neurodegenerative disease;
KW wound healing; haematopoiesis regulation; gene therapy;
KW chromosome identification; monocyte chemotactic protein 4;
KW leukaemia; MCP-4; Bac 2 variant.
OS Homo sapiens.
PN WO9731098-Al.
PD 28-AUG-1997.
PF 23-FEB-1996; U02598.
PR 23-FEB-1996; WO-U02598.
PA (HUMA-) HUMAN GENOME SCI INC.
PI Adams M, Alderson R, Applebaum E, Li H, Li Y, Lima SH,
PI Parmelee D, White J;
DR WPI: 97-435153/40.
PT Polypeptide encoding chemokine beta 4 and monocyte chemotactic
PT protein 4 - useful to treat tumours, autoimmune disease, infection,
PT asthma and fibrosis
PS Example 11; Fig 5; 83pp; English.
CC The present sequence is human chemokine beta10 (Ck beta10) or
CC monocyte chemotactic protein 4 (MCP-4) Bac 2 variant, which can be
CC used to treat patients deficient in Ck beta10, while a Ck beta10
CC antagonist can be used to reduce excessive levels of Ck beta10. Ck
CC beta10 can be used to treat leukaemia, solid tumours, chronic or
CC opportunistic infections, autoimmune diseases, asthma, fibrotic
CC diseases, psoriasis and neurodegenerative diseases. It also
CC promotes wound healing, regulates haematopoiesis and generates
CC antibodies. Labelled Ck beta10 can be used to identify its cognate
CC receptor, while cells expressing the receptor can be used to screen
CC compounds for (ant)agonist activity. The antagonist can be used to
CC treat rheumatoid arthritis, autoimmune, chronic inflammatory or
CC infectious diseases, allergies, prostaglandin dependent fever and
CC bone marrow failure, silicosis, sarcoidosis, hyper-eosinophilic
CC syndrome, lung inflammation and atherosclerosis. Ck beta10 cDNA can
CC be used to isolate genes encoding similar peptides, in gene therapy
CC and for chromosome identification.
SQ Sequence 75 AA;

fibrotic disease; psoriasis; neurodegenerative disease;
wound healing; haematopoiesis regulation; gene therapy;
chromosome identification; monocyte chemotactic protein 4;
leukaemia; MCP-4; Bac 3 variant.
OS Homo sapiens.
PN WO9731098-Al.
PD 28-AUG-1997.
PF 23-FEB-1996; U02598.
PR 23-FEB-1996; WO-U02598.
PA (HUMA-) HUMAN GENOME SCI INC.
PI Adams M, Alderson R, Applebaum E, Li H, Li Y, Lima SH,
PI Parmelee D, White J;
DR WPI: 97-435153/40.
PT Polypeptide encoding chemokine beta 4 and monocyte chemotactic
PT protein 4 - useful to treat tumours, autoimmune disease, infection,
PT asthma and fibrosis
PS Example 11; Fig 5; 83pp; English.
CC The present sequence is human chemokine beta10 (Ck beta10) or
CC monocyte chemotactic protein 4 (MCP-4) Bac 3 variant, which can be
CC used to treat patients deficient in Ck beta10, while a Ck beta10
CC antagonist can be used to reduce excessive levels of Ck beta10. Ck
CC beta10 can be used to treat leukaemia, solid tumours, chronic or
CC opportunistic infections, autoimmune diseases, asthma, fibrotic
CC diseases, psoriasis and neurodegenerative diseases. It also
CC promotes wound healing, regulates haematopoiesis and generates
CC antibodies. Labelled Ck beta10 can be used to identify its cognate
CC receptor, while cells expressing the receptor can be used to screen
CC compounds for (ant)agonist activity. The antagonist can be used to
CC treat rheumatoid arthritis, autoimmune, chronic inflammatory or
CC infectious diseases, allergies, prostaglandin dependent fever and
CC bone marrow failure, silicosis, sarcoidosis, hyper-eosinophilic
CC syndrome, lung inflammation and atherosclerosis. Ck beta10 cDNA can
CC be used to isolate genes encoding similar peptides, in gene therapy
CC and for chromosome identification.
SQ Sequence 75 AA;

Query Match 100.0%; Score 96; DB 26; Length 75;
Best Local Similarity 100.0%; Pred. No. 1.33e-02;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 49 eicadpkekwwq 60
|||||
QY 1 EICADPKEKWQ 12

RESULT 4
ID W22672 standard; Protein: 77 AA.
AC W22672;
DE 19-MAR-1998 (first entry)
DE Bac 2 chemokine beta10 or monocyte chemotactic protein 4 variant.
KW Human; chemokine beta10; Ck beta10; treatment; antagonist;
KW solid tumour; infection; autoimmune disease; asthma; antibody;
KW fibrotic disease; psoriasis; neurodegenerative disease;
KW wound healing; haematopoiesis regulation; gene therapy;
KW chromosome identification; monocyte chemotactic protein 4;
KW leukaemia; MCP-4; Bac 2 variant.
OS Homo sapiens.
PN WO9731098-Al.
PD 28-AUG-1997.
PF 23-FEB-1996; U02598.
PR 23-FEB-1996; WO-U02598.
PA (HUMA-) HUMAN GENOME SCI INC.
PI Adams M, Alderson R, Applebaum E, Li H, Li Y, Lima SH,
PI Parmelee D, White J;
DR WPI: 97-435153/40.
PT Polypeptide encoding chemokine beta 4 and monocyte chemotactic
PT protein 4 - useful to treat tumours, autoimmune disease, infection,
PT asthma and fibrosis
PS Example 11; Fig 5; 83pp; English.
CC The present sequence is human chemokine beta10 (Ck beta10) or
CC monocyte chemotactic protein 4 (MCP-4) Bac 2 variant, which can be
CC used to treat patients deficient in Ck beta10, while a Ck beta10
CC antagonist can be used to reduce excessive levels of Ck beta10. Ck

CC betal0 can be used to treat leukaemia, solid tumours, chronic or
 CC opportunistic infections, autoimmune diseases, asthma, fibrotic
 CC diseases, psoriasis and neurodegenerative diseases. It also
 CC promotes wound healing, regulates haematopoiesis and generates
 CC antibodies. Labelled Ck betal0 can be used to identify its cognate
 CC receptor, while cells expressing the receptor can be used to screen
 CC compounds for (ant)agonist activity. The antagonist can be used to
 CC treat rheumatoid arthritis, autoimmune, chronic inflammatory or
 CC infectious diseases, allergies, prostaglandin dependent fever and
 CC bone marrow failure, silicosis, sarcoidosis, hyper-eosinophilic
 CC syndrome, lung inflammation and atherosclerosis. Ck betal0 cDNA can
 CC be used to isolate genes encoding similar peptides, in gene therapy
 CC and for chromosome identification.
 SQ Sequence 77 AA;

Query Match 100.0%; Score 96; DB 26; Length 77;

Best Local Similarity 100.0%; Pred. No. 1.33e-02;

Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 51 eicadpkekvwq 62

|||||

QY 1 EICADPKERWVQ 12

RESULT 5

ID W22674 standard; Protein: 79 AA.

AC W22674;

DE 19-MAR-1998 (first entry)

DE Droll1/2 chemokine betal0 or monocyte chemotactic protein 4 variant.

KW Human; chemokine betal0; Ck betal0; treatment; antagonist;

KW solid tumour; infection; autoimmune disease; asthma; antibody;

KW fibrotic disease; psoriasis; neurodegenerative disease;

KW wound healing; haematopoiesis regulation; gene therapy;

KW chromosome identification; monocyte chemotactic protein 4;

KW Leukaemia; MCP-4; Droll1/2 variant.

OS Homo sapiens.

PN W09731098-A1.

PD 28-AUG-1997.

PF 23-FEB-1996; U02598.

PR 23-FEB-1996; WO-U02598.

PA (HUMA-) HUMAN GENOME SCI INC.

PI Adams M, Alderson R, Applebaum E, Li H, Li Y, Lima SH,

PI Parmelee D, White J;

DR WPI: 97-435153/40.

PT Polypeptide encoding chemokine beta 4 and monocyte chemotactic

protein 4 - useful to treat tumours, autoimmune disease, infection,

PT asthma and fibrosis

PS Example 11; Fig 5; 83pp; English.

CC The present sequence is human chemokine betal0 (Ck betal0) or

monocyte chemotactic protein 4 (MCP-4) Droll1/2 variant, which can

be used to treat patients deficient in Ck betal0, while a Ck betal0

antagonist can be used to reduce excessive levels of Ck betal0. Ck

betal0 can be used to treat leukaemia, solid tumours, chronic or

opportunistic infections, autoimmune diseases, asthma, fibrotic

diseases, psoriasis and neurodegenerative diseases. It also

promotes wound healing, regulates haematopoiesis and generates

antibodies. Labelled Ck betal0 can be used to identify its cognate

receptor, while cells expressing the receptor can be used to screen

compounds for (ant)agonist activity. The antagonist can be used to

treat rheumatoid arthritis, autoimmune, chronic inflammatory or

infectious diseases, allergies, prostaglandin dependent fever and

bone marrow failure, silicosis, sarcoidosis, hyper-eosinophilic

syndrome, lung inflammation and atherosclerosis. Ck betal0 cDNA can

be used to isolate genes encoding similar peptides, in gene therapy

CC and for chromosome identification.
 SQ Sequence 79 AA;

Query Match

Best Local Similarity 100.0%; Score 96; DB 26; Length 79;

Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 53 eicadpkekvwq 64

|||||

QY 1 EICADPKERWVQ 12

RESULT 6

ID W17665 standard; peptide; 82 AA.

AC W17665;

DE 16-DEC-1997 (first entry)

DE Stem cell mobilising chemokine CKbeta-10.

KW Haematopoietic cell; parasitic infection; colony stimulating factor;

KW haematopoietic cell; immune response; bacterial infection; transplant;

KW wound healing; bone marrow; immunosuppression; regeneration;

KW neoplastic disease; viral disease; gene therapy; cytotoxic drug.

OS Synthetic.

PN W09715594-A1.

PD 01-MAY-1997.

PF 23-OCT-1996; U16959.

PR 24-OCT-1995; US-006051.

PA (SMIK) SMITHKLINE BEECHAM CORP.

PI Kreider BL, Li H, Pelus L, White JR;

DR WPI: 97-258956/23.

PT Ten new chemokine(s) able to mobilise stem cells - used where

increased levels of haematopoietic cells are required, e.g. to

increase resistance to infection

PS Claim 7; Page 11-12; 24pp; English.

CC The present sequence represents a chemokine, CKbeta-10, which is capable

of mobilising stem cells. The chemokine can be used therapeutically to

improve stem cell mobilisation, optionally together with a colony

stimulating factor or other haematoregulatory agent. It can be used

wherever an increased level of haematopoietic cells is needed, e.g. to

increase the immune response to chronic infection (particularly

bacterial or parasitic), to promote wound healing, in (transplant)

patients with reduced bone marrow function as a result of

immunosuppressive treatment or disease, and to provide more rapid

regeneration of bone marrow after treatment for neoplastic or viral

diseases. The induced stem cells may be harvested for subsequent return

to the patient, optionally after they have been genetically manipulated

to deliver a selected gene product (gene therapy). The cells may be

co-administered with a cytotoxic drug.
 SQ Sequence 82 AA;

Query Match

Best Local Similarity 100.0%; Score 96; DB 24; Length 82;

Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 56 eicadpkekvwq 67

|||||

QY 1 EICADPKERWVQ 12

RESULT 7

ID W22671 standard; Protein: 82 AA.

AC W22671;

DE 19-MAR-1998 (first entry)

DE Bac 1 chemokine betal0 or monocyte chemotactic protein 4 variant.

KW Human; chemokine betal0; Ck betal0; treatment; antagonist;

KW solid tumour; infection; autoimmune disease; asthma; antibody;

KW fibrotic disease; psoriasis; neurodegenerative disease;

KW wound healing; haematopoiesis regulation; gene therapy;

KW chromosome identification; monocyte chemotactic protein 4;

OS Leukaemia; MCP-4; Bac 1 variant.

PN W09731098-A1.

PD 28-AUG-1997.

PF 23-FEB-1996; U02598.

PR 23-FEB-1996; WO-U02598.

PA (HUMA-) HUMAN GENOME SCI INC.

PI Adams M, Alderson R, Applebaum E, Li H, Li Y, Lima SH,

PI Parmelee D, White J;

DR WPI: 97-435153/40.

PT Polypeptide encoding chemokine beta 4 and monocyte chemotactic

protein 4 - useful to treat tumours, autoimmune disease, infection,

PT asthma and fibrosis

PS Example 11; Fig 5; 83pp; English.

CC The present sequence is human chemokine beta10 (Ck beta10) or
 CC monocyte chemoattractant protein 4 (MCP-4) Bac 1 variant, which can be
 CC used to treat patients deficient in Ck beta10, while a Ck beta10
 CC antagonist can be used to reduce excessive levels of Ck beta10. Ck
 CC beta10 can be used to treat leukaemia, solid tumours, chronic or
 CC opportunistic infections, autoimmune diseases, asthma, fibrotic
 CC diseases, psoriasis and neurodegenerative diseases. It also
 CC promotes wound healing, regulates haematopoiesis and generates
 CC antibodies. Labelled Ck beta10 can be used to identify its cognate
 CC receptor, while cells expressing the receptor can be used to screen
 CC compounds for (antagonist) activity. The antagonist can be used to
 CC treat rheumatoid arthritis, autoimmune, chronic inflammatory or
 CC infectious diseases, allergies, prostaglandin dependent fever and
 CC bone marrow failure, silicosis, sarcoidosis, hyper-eosinophilic
 CC syndrome, lung inflammation and atherosclerosis. Ck beta10 cDNA can
 CC be used to isolate genes encoding similar peptides, in gene therapy
 CC and for chromosome identification.

Sequence 82 AA;

Query Match 100.0%; Score 96; DB 26; Length 82;
 Best Local Similarity 100.0%; Pred. No. 1.33e-02;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 56 eicadpkckvq 67

QY 1 EICADPKKWKVQ 12

RESULT 8
 ID W56087 standard; Protein; 98 AA.

AC W56087;
 DT 17-AUG-1998 (first entry)
 DE Human monocyte chemoattractant protein 4.
 KW Human; monocyte chemoattractant protein; MCP-4; MCP-5; chemokine;
 KW immune response; cancer; AIDS; malaria; parasitic infection.
 OS Homo sapiens.
 PN W09814573-A1.
 PD 09-APR-1998.
 PF 30-SEP-1997; U17900.
 PR 30-SEP-1996; US-027128.
 PA (GENO) GEN HOSPITAL CORP.
 PI Garcia-Zepeda E, Luster AD, Sarafi M;
 DR WPI: 98-240080/21.
 DR N-PSDB; V28591.
 PT Monocyte chemoattractant proteins, MCP-4 and MCP-3 - used to develop
 PT products for treating e.g. cancers, infections, asthma, cystic
 PT fibrosis, rhinitis, atherosclerosis or inflammatory bowel disease
 PS Claim 8; Page 53; 106pp; English.

CC The present sequence represents human monocyte chemoattractant protein 4
 CC (MCP-4). The MCP-4 and MCP-5 have activity in stimulating chemotactic
 CC activity. The proteins can be used for treating cancers, e.g. a
 CC lymphoma (e.g. Hodgkin's lymphoma), a plasmacytoma, a melanoma, a
 CC sarcoma, a tumour within the lung or gastrointestinal tract, or
 CC infectious disease such as AIDS or malaria. Antagonists to the proteins
 CC can be used for treating e.g. asthma, chronic obstructive pulmonary
 CC disease, cystic fibrosis, sinusitis, rhinitis, atherosclerosis,
 CC glomerulonephritis, multiple sclerosis, inflammatory bowel disease,
 CC arthritis or adult respiratory distress syndrome. Infections such as
 CC parasitic infections may also be treated with a molecule that inhibits
 CC MCP-4 or MCP-5 expression.

Sequence 98 AA;

Query Match 100.0%; Score 96; DB 31; Length 98;
 Best Local Similarity 100.0%; Pred. No. 1.33e-02;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 72 eicadpkckvq 83

QY 1 EICADPKKWKVQ 12

RESULT 9

ID W22670 standard; Protein; 98 AA.

AC W22670;
 DT 19-MAR-1998 (first entry)
 DE Human chemokine beta10 or monocyte chemoattractant protein 4.
 KW Human; chemokine beta10; Ck beta10; treatment; antagonist;
 KW solid tumour; infection; autoimmune disease; asthma; antibody;
 KW fibrotic disease; psoriasis; neurodegenerative disease;
 KW wound healing; haematopoiesis regulation; gene therapy;
 KW chromosome identification; monocyte chemoattractant protein 4;
 KW leukaemia; MCP-4.
 OS Homo sapiens.
 FH Key Location/Qualifiers
 FT Peptide 1..23
 FT Peptide /label= sig_peptide
 FT Peptide 24..98
 FT Peptide /label= mat_peptide
 PN W09731098-A1.
 PD 28-AUG-1997.
 PF 23-FEB-1996; U02598.
 PR 23-FEB-1996; WO-U02598.
 PA (HUMA-) HUMAN GENOME SCI INC.
 PI Adams M, Alderson R, Applebaum E, Li H, Li Y, Lima SH,
 PI Parmelee D, White J;
 DR WPI: 97-435153/40.
 DR N-PSDB; T85029.
 PT Polypeptide encoding chemokine beta 4 and monocyte chemoattractant
 PT protein 4 - useful to treat tumours, autoimmune disease, infection,
 PT asthma and fibrosis
 PS Claim 1; Fig 2; 83pp; English.
 CC The present sequence is human chemokine beta10 (Ck beta10) or
 CC monocyte chemoattractant protein 4 (MCP-4), which can be used to treat
 CC patients deficient in Ck beta10, while a Ck beta10 antagonist can be
 CC used to reduce excessive levels of Ck beta10. Ck beta10 can be
 CC used to treat leukaemia, solid tumours, chronic or opportunistic
 CC infections, autoimmune diseases, asthma, fibrotic diseases,
 CC psoriasis and neurodegenerative diseases. It also promotes wound
 CC healing, regulates haematopoiesis and generates antibodies.
 CC Labelled Ck beta10 can be used to identify its cognate receptor,
 CC while cells expressing the receptor can be used to screen compounds
 CC for (antagonist) activity. The antagonist can be used to treat
 CC rheumatoid arthritis, autoimmune, chronic inflammatory or
 CC infectious diseases, allergies, prostaglandin dependent fever and
 CC bone marrow failure, silicosis, sarcoidosis, hyper-eosinophilic
 CC syndrome, lung inflammation and atherosclerosis. Ck beta10 cDNA can
 CC be used to isolate genes encoding similar peptides, in gene therapy
 CC and for chromosome identification.

Sequence 98 AA;

Query Match 100.0%; Score 96; DB 26; Length 98;
 Best Local Similarity 100.0%; Pred. No. 1.33e-02;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 72 eicadpkckvq 83

QY 1 EICADPKKWKVQ 12

RESULT 10

ID W30191 standard; Protein; 98 AA.

AC W30191;
 DT 21-MAY-1998 (first entry)
 DE Monocyte chemoattractant protein 5.
 KW Monocyte chemoattractant protein 5;
 KW chemokine; inhibitor; antiinflammatory; atherosclerosis;
 KW Crohn's disease; arthritis; angiogenesis; tumour; metastasis;
 KW therapy; diagnosis; medical imaging.
 OS Homo sapiens.

FH Key Location/Qualifiers

FT Peptide 1..23

FT Peptide /label= sig_peptide

FT Protein 24..98

FT Protein /label= Mat_protein

FT Protein /note= "(Claim 4)"

PN W09735982-A2.

PD 02-OCT-1997. U04898.
 PF 26-MAR-1997; US-622851.
 PR (ICOS-) ICOS CORP.
 PA Godiska R, Gray PW;
 PI WPI: 97-489645/45.
 DR N-PSDB; T90880.
 PT Polynucleotide encoding monocyte chemotactic protein-5 - useful in
 PT treatment of e.g. inflammation, arteriosclerosis, angiogenesis and
 PT tumours
 PS Claim 1; Page 36-37; 47pp; English.
 CC This polypeptide comprises human macrophage-derived
 CC monocyte chemotactic protein-5 (MCP-5), a novel C-C chemokine.
 CC Its amino acid sequence was deduced from a cDNA clone (see
 CC T90880 and T90883) isolated from a human macrophage cDNA
 CC library. A claimed method for producing MCP-5 comprises
 CC culturing a host cell that is stably transformed or transfected
 CC with MCP-5 polynucleotide. Also claimed is a hybridoma that
 CC produces a monoclonal antibody (MAb) that is specifically
 CC reactive with the mature MCP-5. MCP-5 (or its analogues and
 CC fragments) is used to enhance the immune response in cases of
 CC wounds or infections, while its inhibitors (e.g. the MAb) are
 CC useful as anti-inflammatories in cases of e.g. arthritis and
 CC Crohn's disease, also for treatment of arteriosclerosis.
 CC angiogenesis and tumour growth (or metastasis). The MCP-5
 CC inhibitors can possibly also be used to reduce the damaging effects
 CC of chemo- and radio-therapy on myeloid progenitor cells, and to
 CC inhibit replication of HIV. MCP-5 can also be used to identify
 CC its cognate receptor, while MCP-5 peptides (or the analogues or
 CC receptors) are used to modulate MCP-5 activity and to identify
 CC MCP-5 agonists and antagonists.
 SQ Sequence 98 AA;

Query Match 100.0%; Score 96; DB 28; Length 98;
 Best Local Similarity 100.0%; Pred. No. 1.33e-02;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 72 eicadpkekvwq 83
 | | | | | | | | | |
 QY 1 EICADPKEKWWQ 12

RESULT 11
 ID R3087 standard; Protein; 98 AA.
 AC R3087;
 DT 27-AUG-1996 (first entry)
 DE Human chemokine beta-10.
 KW Chemokine beta-10; chemokine beta-4; Ck beta-10; Ck beta-4;
 KW cytokine; leukaemia; tumour; cancer; autoimmune disease; psoriasis;
 KW asthma; allergy; wound healing; diagnosis; therapy.
 OS Homo sapiens.
 FH Key Location/Qualifiers
 FT peptide 1..23
 FT /label= Sig_peptide
 FT protein 25..98
 FT /label= Mat_protein
 PN WO9605856-A1.
 PD 29-FEB-1996.
 PF 23-AUG-1994; U09484.
 PR 23-AUG-1994; WO-U09484.
 PR 08-SEP-1994; ZA-006936.
 PA (HUMA-) HUMAN GENOME SCI INC.
 PI Adams MD, Li H;
 DR WPI: 96-151145/15.
 DR N-PSDB; T17050.
 PT New chemokine Ck(beta)-4 and -10 genes and polypeptide(s) - useful
 PT to treat, e.g. leukaemia, solid tumours and auto-immune diseases
 PS Claim 19; Fig 2; 53pp; English.
 CC A novel human chemokine, Ck beta-10 (R93087), was identified as
 CC the product of a cDNA clone (T17050) isolated from a 9-wk early
 CC human tissue cDNA library. The protein is structurally related to
 CC the chemokine family. Recombinant Ck beta-10 can be obtd. by
 CC incorporating the cDNA into a vector and expression of the protein

CC in e.g. E. coli, COS or Sf9 cells. Ck beta-10 can be used to treat
 CC solid tumours, chronic infections, psoriasis, asthma and allergy,
 CC to regulate haematopoiesis, promote wound healing, and to inhibit
 CC angiogenesis. It can also be used to inhibit bone marrow stem cell
 CC colony formn. during chemotherapy.
 SQ Sequence 98 AA;

Query Match 100.0%; Score 96; DB 17; Length 98;
 Best Local Similarity 100.0%; Pred. No. 1.33e-02;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 72 eicadpkekvwq 83
 | | | | | | | | | |
 QY 1 EICADPKEKWWQ 12

RESULT 12
 ID W13598 standard; peptide; 66 AA.
 AC W13598;
 DT 07-NOV-1997 (first entry)
 DE Monocyte chemoattractant protein analogue MCP-1 (10-76).
 KW Truncated monocyte chemoattractant protein-1; inhibitor;
 KW receptor binding; anti-inflammatory; basophil; lymphocyte; allergy;
 KW chronic inflammatory disease; arthritis; arteriosclerosis;
 KW lung disease.
 OS Homo sapiens.
 PN CA2152141-A.
 PD 20-DEC-1996.
 PF 19-JUN-1995; 152141.
 PR 19-JUN-1995; CA-152141.
 PA (LEWIS) LEWIS I.
 PI Gong J, Lewis I;
 DR WPI: 97-165844/16.
 PT N-terminally truncated monocyte chemoattractant protein-1 (MCP-1) -
 PT lacks MCP-1 activity and inhibits receptor binding, useful as
 PT anti-inflammatory agent
 PS Disclosure; Page 5; 27pp; English.
 CC The present sequence represents an analogue, MCP-1 (10-76), of monocyte
 CC chemoattractant protein-1 (MCP-1). The analogue, which lacks the
 CC N-terminal amino acids 1-9 of MCP-1, acts as an antagonist of MCP-1
 CC as it lacks MCP-1 biological activity and inhibits binding to a MCP-1
 CC receptor. The analogue is useful as an anti-inflammatory agent to block
 CC the effects of MCP-1 which is an inflammatory mediator causing migration
 CC of monocytes and other cells e.g. basophils and lymphocytes into
 CC inflammatory sites. MCP-1 has been implicated in allergic and chronic
 CC inflammatory diseases e.g. arthritis, arteriosclerosis and several lung
 CC diseases. The analogue competes more effectively with MCP-1 for binding
 CC MCP-1 receptors than prior art mutant versions of MCP-1 e.g. preferably
 CC providing 50% inhibition of binding at a 25:1 ratio or less, compared
 CC with 75:1 for prior art mutant 7ND.
 SQ Sequence 66 AA;

Query Match 96.9%; Score 93; DB 24; Length 66;
 Best Local Similarity 91.7%; Pred. No. 2.71e-02;
 Matches 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Db 40 eicadpkekvwq 51
 | | | | | | | | | |
 QY 1 EICADPKEKWWQ 12

RESULT 13
 ID W13599 standard; peptide; 67 AA.
 AC W13599;
 DT 07-NOV-1997 (first entry)
 DE Monocyte chemoattractant protein analogue MCP-1 (11-76).
 KW Truncated monocyte chemoattractant protein-1; inhibitor;
 KW receptor binding; anti-inflammatory; basophil; lymphocyte; allergy;
 KW chronic inflammatory disease; arthritis; arteriosclerosis;
 KW lung disease.
 OS Homo sapiens.
 PN CA2152141-A.
 PD 20-DEC-1996.

PF 19-JUN-1995; 152141.
 PR 19-JUN-1995; CA-152141.
 PA (LEWI/) LEWIS I.
 PI Gong J, Lewis I;
 PT WPI; 97-165844/16.
 DR N-terminally truncated monocyte chemoattractant protein-1 (MCP-1) -
 PT lacks MCP-1 activity and inhibits receptor binding, useful as
 PT anti-inflammatory agent
 PS Disclosure; Page 5; 27pp; English.
 CC The present sequence represents an analogue, MCP-1 (11-76), of monocyte
 CC chemoattractant protein-1 (MCP-1). The analogue, which lacks the
 CC N-terminal amino acids 1-10 of MCP-1, acts as an antagonist of MCP-1
 CC as it lacks MCP-1 biological activity and inhibits binding to a MCP-1
 CC receptor. The analogue is useful as an anti-inflammatory agent to block
 CC the effects of MCP-1 which is an inflammatory mediator causing migration
 CC of monocytes and other cells e.g. basophils and lymphocytes into
 CC inflammation sites. MCP-1 has been implicated in allergic and chronic
 CC inflammatory diseases e.g. arthritis, arteriosclerosis and several lung
 CC diseases. The analogue competes more effectively with MCP-1 for binding
 CC MCP-1 receptors than prior art mutant versions of MCP-1 e.g. preferably
 CC providing 50% inhibition of binding at a 25:1 ratio or less, compared
 CC with 75:1 for prior art mutant 7ND.
 SQ Sequence 67 AA;

Query Match 96.9%; Score 93; DB 24; Length 67;
 Best Local Similarity 91.7%; Pred. No. 2.71e-02;
 Matches 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Db 41 eicadpkqkwvq 52
 QY 1 EICADPKKWKVQ 12
 |||||:||||

RESULT 14
 ID W13597;
 AC W13597;
 DT 07-NOV-1997 (first entry)
 DE Monocyte chemoattractant protein analogue MCP-1 (9-76).
 KW Truncated monocyte chemoattractant protein-1; inhibitor;
 KW receptor binding; anti inflammatory; basophil; lymphocyte; allergy;
 KW chronic inflammatory disease; arthritis; arteriosclerosis;
 KW lung disease.
 OS Homo sapiens.
 PN CA2152141-A.
 PD 20-DEC-1996.
 PF 19-JUN-1995; 152141.
 PR 19-JUN-1995; CA-152141.
 PA (LEWI/) LEWIS I.
 PI Gong J, Lewis I;
 PT WPI; 97-165844/16.
 DR N-terminally truncated monocyte chemoattractant protein-1 (MCP-1) -
 PT lacks MCP-1 activity and inhibits receptor binding, useful as
 PT anti-inflammatory agent
 PS Claim 7; Page 5; 27pp; English.
 CC The present sequence represents an analogue, MCP-1 (9-76), of monocyte
 CC chemoattractant protein-1 (MCP-1). The analogue, which lacks the
 CC N-terminal amino acids 1-8 of MCP-1, acts as an antagonist of MCP-1
 CC as it lacks MCP-1 biological activity and inhibits binding to a MCP-1
 CC receptor. The analogue is useful as an anti-inflammatory agent to block
 CC the effects of MCP-1 which is an inflammatory mediator causing migration
 CC of monocytes and other cells e.g. basophils and lymphocytes into
 CC inflammation sites. MCP-1 has been implicated in allergic and chronic
 CC inflammatory diseases e.g. arthritis, arteriosclerosis and several lung
 CC diseases. The analogue competes more effectively with MCP-1 for binding
 CC MCP-1 receptors than prior art mutant versions of MCP-1 e.g. preferably
 CC providing 50% inhibition of binding at a 25:1 ratio or less, compared
 CC with 75:1 for prior art mutant 7ND.
 SQ Sequence 68 AA;

Query Match 96.9%; Score 93; DB 24; Length 68;
 Best Local Similarity 91.7%; Pred. No. 2.71e-02;
 Matches 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Db 42 eicadpkqkwvq 53
 QY 1 EICADPKKWKVQ 12
 |||||:||||

RESULT 15
 ID R87678 standard; protein; 69 AA.
 AC R87678;
 DT 21-FEB-1996 (first entry)
 DE des(2-8) MCP-1.
 KW monocyte chemoattractant protein; MCP-1; mutant; restenosis;
 OS Homo sapiens.
 FH Key
 FT modified_site 2.3
 FT Location/Qualifiers
 FT /note= "amino acids 2-8 of the native protein have
 FT been deleted between these residues"
 FT disulfide_bond 4..29
 FT disulfide_bond 5..45
 PN W09513295-A1.
 PD 18-MAY-1995.
 PF 07-NOV-1994; U12874.
 PR 12-NOV-1993; US-152301.
 PA (DAND) DANA FARBER CANCER INST INC.
 PI Rollins B, Zhang YJ;
 DR WPI; 95-215051/28.
 PT Human monocyte chemoattractant protein-1 (MCP-1) derivs. - are
 PT capable of inhibiting the monocyte chemoattractant activity of
 PT endogenous MCP-1 and can be used to treat restenosis
 PS Claim 4; Page 11; 22pp; English.
 CC Monocyte chemoattractant protein-1 (MCP-1) derivatives are mutated such
 CC that they inhibit the monocyte chemoattractant activity of endogenous
 CC MCP-1, provided that the derivative has not been modified by the
 CC substitution of 28-Tyr by Leu and/or 30-Arg by Val. Preferred mutations
 CC are: (1) substitution of 28 Tyr by aspartate; (2) substitution of 24 Arg
 CC by Phe; (3) substitution of 3-Asp by Ala; and/or (4) deletion of amino
 CC acids 2-8. The present sequence is a specifically claimed human MCP-1
 CC derivative based on the parent protein disclosed in Rollins, Molecular
 CC and Cellular Biology, Vol. 9, No. 11, pp. 4687-4695, Nov. 1989.
 CC The peptides can be used to prevent restenosis, e.g. in patients
 CC undergoing coronary artery angioplasty.
 SQ Sequence 69 AA;

Query Match 96.9%; Score 93; DB 14; Length 69;
 Best Local Similarity 91.7%; Pred. No. 2.71e-02;
 Matches 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Db 43 eicadpkqkwvq 54
 QY 1 EICADPKKWKVQ 12
 |||||:||||

Search completed: Fri Feb 4 17:38:31 2000
 Job time : 20 secs.

 M P S R C H
 (TM)

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MPSrch_pp protein - protein database search, using Smith-Waterman algorithm

Run on: Fri Feb 4 17:45:15 2000; MasPar time 2.53 Seconds
 133.995 Million cell updates/sec
 Tabular output not generated.

Title: >US-09-150-813-66
 Description: (1-12) from US09150813.pep
 Perfect Score: 95
 Sequence: 1 EICADPTQKWVQ 12

Scoring table: PAM 150
 Gap 15

Searched: 77977 seqs, 28268293 residues

Post-processing: Minimum Match 0%
 Listing first 45 summaries

Database: swiss-prot37
 1:swissprot

Statistics: Mean 25.241; Variance 32.618; scale 0.774

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match % | Length | ID | Description | Pred. No. |
|------------|-------|---------------|--------|----|-------------|---------------------------------|
| 1 | 95 | 100.0 | 99 | 1 | MCP3_HUMAN | MONOCYTE CHEMOTACTIC P 1.56e-09 |
| 2 | 93 | 97.9 | 120 | 1 | MCP1_CAVPO | MONOCYTE CHEMOTACTIC P 4.97e-09 |
| 3 | 90 | 94.7 | 99 | 1 | MCP1_HUMAN | MONOCYTE CHEMOTACTIC P 2.79e-08 |
| 4 | 90 | 94.7 | 101 | 1 | MCP1_CANFA | MONOCYTE CHEMOTACTIC P 2.79e-08 |
| 5 | 89 | 93.7 | 99 | 1 | MCP1_PIG | MONOCYTE CHEMOTACTIC P 4.94e-08 |
| 6 | 87 | 91.6 | 99 | 1 | MCP2_BOVIN | MONOCYTE CHEMOTACTIC P 1.54e-07 |
| 7 | 86 | 90.5 | 98 | 1 | MCP2_HUMAN | MONOCYTE CHEMOTACTIC P 2.70e-07 |
| 8 | 86 | 90.5 | 99 | 1 | MCP2_PIG | MONOCYTE CHEMOTACTIC P 4.73e-07 |
| 9 | 85 | 89.5 | 99 | 1 | MCPA_BOVIN | MONOCYTE CHEMOTACTIC P 8.27e-07 |
| 10 | 84 | 88.4 | 125 | 1 | MCP1_RABIT | MONOCYTE CHEMOTACTIC P 1.44e-06 |
| 11 | 83 | 87.4 | 97 | 1 | EOTA_RAT | EOTAXIN PRECURSOR (EOS 1.44e-06 |
| 12 | 83 | 87.4 | 97 | 1 | EOTA_MOUSE | EOTAXIN PRECURSOR (EOS 2.51e-06 |
| 13 | 82 | 86.3 | 97 | 1 | EOTA_HUMAN | EOTAXIN PRECURSOR (EOS 7.54e-06 |
| 14 | 80 | 84.2 | 89 | 1 | MIPA_HUMAN | MACROPHAGE INFLAMMATOR 1.30e-05 |
| 15 | 79 | 83.2 | 104 | 1 | MCP5_MOUSE | MONOCYTE CHEMOTACTIC P 3.85e-05 |
| 16 | 77 | 81.1 | 96 | 1 | EOTA_CAVPO | EOTAXIN PRECURSOR (EOS 3.85e-05 |
| 17 | 77 | 81.1 | 101 | 1 | IL8_SHEEP | INTERLEUKIN-8 PRECURSO 3.85e-05 |
| 18 | 77 | 81.1 | 101 | 1 | IL8_CANFA | INTERLEUKIN-8 PRECURSO 3.85e-05 |
| 19 | 77 | 81.1 | 103 | 1 | IL8_PIG | INTERLEUKIN-8 PRECURSO 6.58e-05 |
| 20 | 76 | 80.0 | 92 | 1 | MILA_RAT | MACROPHAGE INFLAMMATOR 1.12e-04 |
| 21 | 75 | 78.9 | 74 | 1 | MCPB_BOVIN | MONOCYTE CHEMOTACTIC P 1.12e-04 |
| 22 | 75 | 78.9 | 92 | 1 | MILB_HUMAN | MACROPHAGE INFLAMMATOR 1.12e-04 |
| 23 | 75 | 78.9 | 92 | 1 | MILA_HUMAN | MACROPHAGE INFLAMMATOR 1.12e-04 |

| | | | | | | |
|----|----|------|-----|---|------------|---------------------------------|
| 24 | 75 | 78.9 | 93 | 1 | MIL0_HUMAN | TONSILLAR LYMPHOCYTE L 1.12e-04 |
| 25 | 75 | 78.9 | 99 | 1 | MCP2_HUMAN | MONOCYTE CHEMOTACTIC P 1.12e-04 |
| 26 | 75 | 78.9 | 148 | 1 | MCP1_RAT | MONOCYTE CHEMOTACTIC P 1.12e-04 |
| 27 | 74 | 77.9 | 101 | 1 | IL8_BOVIN | INTERLEUKIN-8 PRECURSO 1.91e-04 |
| 28 | 74 | 77.9 | 101 | 1 | IL8_RABIT | INTERLEUKIN-8 PRECURSO 1.91e-04 |
| 29 | 73 | 76.8 | 91 | 1 | SISD_MOUSE | T-CELL SPECIFIC RANTES 3.24e-04 |
| 30 | 73 | 76.8 | 92 | 1 | SISD_RAT | T-CELL SPECIFIC RANTES 3.24e-04 |
| 31 | 73 | 76.8 | 93 | 1 | CCCL_HUMAN | CHEMOKINE CC-1 PRECURS 3.24e-04 |
| 32 | 73 | 76.8 | 97 | 1 | MCP3_MOUSE | MONOCYTE CHEMOTACTIC P 3.24e-04 |
| 33 | 73 | 76.8 | 109 | 1 | CCG3_HUMAN | CHEMOKINE CC-3 PRECURS 3.24e-04 |
| 34 | 73 | 76.8 | 148 | 1 | MCP1_MOUSE | MONOCYTE CHEMOTACTIC P 3.24e-04 |
| 35 | 72 | 75.8 | 92 | 1 | MILB_RABIT | MACROPHAGE INFLAMMATOR 5.47e-04 |
| 36 | 69 | 72.6 | 92 | 1 | MILA_MOUSE | MACROPHAGE INFLAMMATOR 2.58e-03 |
| 37 | 68 | 71.6 | 89 | 1 | SDF1_MOUSE | STROMAL CELL-DERIVED F 4.31e-03 |
| 38 | 68 | 71.6 | 90 | 1 | MILB_CHICK | MACROPHAGE INFLAMMATOR 4.31e-03 |
| 39 | 68 | 71.6 | 92 | 1 | MILB_RAT | MACROPHAGE INFLAMMATOR 4.31e-03 |
| 40 | 68 | 71.6 | 93 | 1 | SDF1_HUMAN | STROMAL CELL-DERIVED F 4.31e-03 |
| 41 | 68 | 71.6 | 93 | 1 | SDF1_FELCA | STROMAL CELL-DERIVED F 4.31e-03 |
| 42 | 68 | 71.6 | 99 | 1 | IL8_HUMAN | INTERLEUKIN-8 PRECURSO 4.31e-03 |
| 43 | 68 | 71.6 | 101 | 1 | IL8_CAVPO | INTERLEUKIN-8 PRECURSO 4.31e-03 |
| 44 | 68 | 71.6 | 103 | 1 | EMFL_CHICK | EMBRYO FIBROBLAST PROT 4.31e-03 |
| 45 | 67 | 70.5 | 114 | 1 | LTN_RAT | LYMPHOTACTIN PRECURSOR 7.15e-03 |

ALIGNMENTS

| | | | | | | |
|--------|---|-----------|------|----|-----|--|
| RESULT | 1 | | | | | |
| ID | MCP3_HUMAN | STANDARD; | PRT; | 99 | AA. | |
| AC | P80098; | | | | | |
| DT | 01-DEC-1992 (REL. 24, CREATED) | | | | | |
| DT | 01-NOV-1995 (REL. 32, LAST SEQUENCE UPDATE) | | | | | |
| DT | 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE) | | | | | |
| DE | MONOCYTE CHEMOTACTIC PROTEIN 3 PRECURSOR (MCP-3) (MONOCYTE | | | | | |
| DE | CHEMOATTRACTANT PROTEIN 3) (NC28). | | | | | |
| GN | SCYA7 OR MCP3 | | | | | |
| OS | HOMO SAPIENS (HUMAN). | | | | | |
| OC | EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; | | | | | |
| OC | PRIMATES; CATARRHINI; HOMINIDAE; HOMO. | | | | | |
| RN | [1] | | | | | |
| RP | SEQUENCE FROM N.A., AND SEQUENCE OF 31-67 AND 71-99. | | | | | |
| RX | MEDLINE; 93213290. | | | | | |
| RA | OPDENAKKER G., FROYEN G., FITEN P., PROOST P., VAN DAMME J.; | | | | | |
| RT | "Human monocyte chemotactic protein-3 (MCP-3): molecular cloning of | | | | | |
| RT | the cDNA and comparison with other chemokines."; | | | | | |
| RL | BIOCHEM. BIOPHYS. RES. COMMUN. 191:535-542(1993). | | | | | |
| RN | [2] | | | | | |
| RP | SEQUENCE FROM N.A. | | | | | |
| RX | MEDLINE; 94375065. | | | | | |
| RA | OPDENAKKER G., FITEN P., NYS G., FROYEN G., VAN ROY N., SPELEMAN F., | | | | | |
| RA | LAUREYS G., VAN DAMME J.; | | | | | |
| RT | "The human MCP-3 gene (SCYA7): cloning, sequence analysis, and | | | | | |
| RT | assignment to the C-C chemokine gene cluster on chromosome | | | | | |
| RL | GENOMICS 21:403-408(1994). | | | | | |
| RN | [3] | | | | | |
| RP | SEQUENCE FROM N.A. | | | | | |
| RX | MEDLINE; 93305913. | | | | | |
| RA | MINTY A., CHALON P., GUILLEMOT J.C., KAGHAD M., LIAUZON P., | | | | | |
| RA | MAGAZIN M., MILOUX B., MINTY C., RAMOND P., VITA N., LUPKER J., | | | | | |
| RA | SHIRE D., FERRARA P., CAPUT D.; | | | | | |
| RT | "Molecular cloning of the MCP-3 chemokine gene and regulation of its | | | | | |
| RT | expression."; | | | | | |
| RL | EUR. CYTOKINE NETW. 4:99-110(1993). | | | | | |
| RN | [4] | | | | | |
| RP | SEQUENCE OF 30-99. | | | | | |
| RX | TISSUE-OSTEOSARCOMA; | | | | | |
| RA | MEDLINE; 92308855 | | | | | |
| RA | VAN DAMME J., PROOST P., LENAERTS J.-P., OPDENAKKER G.; | | | | | |
| RT | "Structural and functional identification of two human, tumor-derived | | | | | |
| RT | monocyte chemotactic proteins (MCP-2 and MCP-3) belonging to the | | | | | |
| RT | chemokine family."; | | | | | |
| RL | J. EXP. MED. 176:59-65(1992). | | | | | |
| RN | [5] | | | | | |

RP STRUCTURE BY NMR, AND SUBUNIT.
RX MEDLINE: 97053697.
RA KIM K.-S., RAJARATHNAM K., CLARK-LEWIS I., SYKES B.D.;
RT "Structural characterization of a monomeric chemokine: monocyte
chemoattractant protein-3.";
RL FEBS LETT. 395:277-282(1996).
RN [6]
RP STRUCTURE BY NMR.
RX MEDLINE: 97263733.
RA MEUNIER S., BERNASSAU J.-M., GUILLEMOT J.-C., FERRARA P., DARBON H.;
RT "determination of the three-dimensional structure of CC chemokine
monocyte chemoattractant protein 3 by 1H two-dimensional NMR
spectroscopy.";
RL BIOCHEMISTRY 36:4412-4422(1997).
RN [6]
CC -1- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES AND
EOSINOPHILS, BUT NOT NEUTROPHILS. AUGMENTS MONOCYTE ANTI-TUMOR
ACTIVITY. ALSO INDUCES THE RELEASE OF GELATINASE B. THIS PROTEIN
CAN BIND HEPARIN.
CC -1- SUBUNIT: MONOMER.
CC -1- PTM: O-GLYCOSYLATED.
CC -1- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
C-C) (CHEMOKINE CC).

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DR EMBL: X72308; G313708; ALT_INIT.
DR EMBL: X72309; -; NOT_ANNOTATED_CDS.
DR EMBL: X71087; G288399; -
DR EMBL: X71087; G288398; ALT_INIT.
DR EMBL: X71087; G288397; ALT_INIT.
DR PIR: JCI478; JCI478.
DR PIR: S32222; S32222.
DR PIR: A54678; A54678.
DR PDB: INCV; 15-OCT-97.
DR MIM: 158106; -.
DR PROSITE: PS00472; SMALL_CYTOKINES_CC; 1.
DR PFAM: PF00048; 118; 1.
DR CYTOKINE: CHEMOTAXIS; HEPARIN-BINDING; GLYCOPROTEIN; SIGNAL;
KW INFLAMMATORY RESPONSE; 3D-STRUCTURE.
FT SIGNAL 1 23
FT CHAIN 24 99 MONOCYTE CHEMOTACTIC PROTEIN 3.
FT MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID.
FT DISULFD 34 59 BY SIMILARITY.
FT DISULFD 35 75 BY SIMILARITY.
FT CARBOHYD 29 29 POTENTIAL.
FT CONFLICT 30 30 T -> K (IN REF. 4).
FT CONFLICT 68 70 MISSING (IN REF. 4).
SQ SEQUENCE 99 AA; 11200 MW; 7502E19C CRC32;
Query Match 100.0%; Score 95; DB 1; Length 99;
Best Local Similarity 100.0%; Pred. No. 1.56e-09;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Db 73 EICADPTQKWQ 84
| | | | | | | | | |
QY 1 EICADPTQKWQ 12

RESULT 2
ID MCP1_CAVPO STANDARD; PRT; 120 AA.
AC Q08782;
DT 01-NOV-1995 (REL. 32, CREATED)
DT 01-NOV-1995 (REL. 32, LAST SEQUENCE UPDATE)
DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
DE MONOCYTE CHEMOTACTIC PROTEIN 1 PRECURSOR (MCP-1) (MONOCYTE
DE CHEMOATTRACTANT PROTEIN-1).
GN SCYA2 OR MCP1.

OS CAVIA PORCELLUS (GUINEA PIG).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC RODENTIA; HYSTRICOGNATHI; CAVIIDAE; CAVIA.
RN [1]
RP SEQUENCE FROM N.A.
RX STRAIN=2; TISSUE=SPLEEN;
RX MEDLINE: 93267104.
RA YOSHIMURA T.;
RT "cDNA cloning of guinea pig monocyte chemoattractant protein-1 and
expression of the recombinant protein.";
RL J. IMMUNOL. 150:5025-5032(1993).
CC -1- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES, BUT NOT
NEUTROPHILS.
CC -1- SUBUNIT: MONOMER OR HOMODIMER; IN EQUILIBRIUM (BY SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
C-C) (CHEMOKINE CC).

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or send an email to license@isb-sib.ch).

DR EMBL: L04985; G349821; -
DR PROSITE: PS00472; SMALL_CYTOKINES_CC; 1.
DR PFAM: PF00048; 118; 1.
DR HSP: P80098; INCV.
KW CYTOKINE; CHEMOTAXIS; SIGNAL; INFLAMMATORY RESPONSE; GLYCOPROTEIN.
FT SIGNAL 1 23
FT CHAIN 24 120 MONOCYTE CHEMOTACTIC PROTEIN 1.
FT MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID (BY
SIMILARITY).
FT DISULFD 33 57 BY SIMILARITY.
FT DISULFD 34 73 BY SIMILARITY.
FT CARBOHYD 97 97 POTENTIAL.
SQ SEQUENCE 120 AA; 13741 MW; 22FAD257 CRC32;
Query Match 97.9%; Score 93; DB 1; Length 120;
Best Local Similarity 91.7%; Pred. No. 4.97e-09;
Matches 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
Db 71 EVCADPTQKWQ 82
| | | | | | | | | |
QY 1 EICADPTQKWQ 12

RESULT 3
ID MCP1_HUMAN STANDARD; PRT; 99 AA.
AC P13500;
DT 01-JAN-1990 (REL. 13, CREATED)
DT 01-JAN-1990 (REL. 13, LAST SEQUENCE UPDATE)
DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
DE MONOCYTE CHEMOTACTIC PROTEIN 1 PRECURSOR (MCP-1) (MONOCYTE CHEMOTACTIC
DE AND ACTIVATING FACTOR) (MCAF) (MONOCYTE SECRETORY PROTEIN JE)
DE (MONOCYTE CHEMOATTRACTANT PROTEIN 1) (HC11) (SMALL INDUCIBLE CYTOKINE
A2).
GN SCYA2 OR MCP1.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC PRIMATES; CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE: 89165862.
RA FURUTANI Y., NOMURA H., NOTAKE M., OYAMADA Y., FUKUI T., YAMADA M.,
RA LARSEN C.G., OPPENHEIM J.J., MATSUSHIMA K.;
RT "Cloning and sequencing of the cDNA for human monocyte chemotactic
and activating factor (MCAF).";
RL BIOCHEM. BIOPHYS. RES. COMMUN. 159:249-255(1989).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE: 90097880.

RA ROLLINS B.J., STIER P., ERNST T., WONG G.G.;
 RT "The human homolog of the JE gene encodes a monocyte secretory
 RL protein.";
 RL MOL. CELL. BIOL. 9:4687-4695(1989).
 RN [3]
 RP SEQUENCE FROM N.A.
 RX MEDLINE: 89153605.
 RA YOSHIMURA T., YUHKI N., MOORE S.K., APPELLA E., LERMAN M.I.,
 RA LEONARD E.J.;
 RT "Human monocyte chemoattractant protein-1 (MCP-1). Full-length cDNA
 RT cloning, expression in mitogen-stimulated blood mononuclear
 RT leukocytes, and sequence similarity to mouse competence gene JE.";
 RL FEBS LETT. 244:487-493(1989).
 RN [4]
 RP SEQUENCE FROM N.A.
 RX MEDLINE: 90290466.
 RA SHY Y.J., LI Y.S., KOLATTUKUDY P.E.;
 RT "Structure of human monocyte chemoattractant protein gene and its
 RT regulation by TPA.";
 RL BIOCHEM. BIOPHYS. RES. COMMUN. 169:346-351(1990).
 RN [5]
 RP SEQUENCE FROM N.A.
 RX MEDLINE: 91207938.
 RA CHANG H.C., HSU F., FREEMAN G.J., GRIFFIN J.D., REINHHERZ E.L.;
 RT "Cloning and expression of a gamma-interferon-inducible gene in
 RT monocytes: a new member of a cytokine gene family.";
 RL INT. IMMUNOL. 1:388-399(1989).
 RN [6]
 RP SEQUENCE FROM N.A.
 RX MEDLINE: 94150478.
 RA LI Y.S., SHY Y.J., WRIGHT J.G., VALENTE A.J., CORNHILL J.F.,
 RA KOLATTUKUDY P.E.;
 RT "The expression of monocyte chemoattractant protein (MCP-1) in human
 RT vascular endothelium in vitro and in vivo.";
 RL MOL. CELL. BIOCHEM. 126:61-68(1993).
 RN [7]
 RP SEQUENCE FROM N.A.
 RX MEDLINE: 92095166.
 RA YOSHIMURA T., LEONARD E.J.;
 RT "Human monocyte chemoattractant protein-1 (MCP-1).";
 RL ADV. EXP. MED. BIOL. 305:47-56(1991).
 RN [8]
 RP SEQUENCE OF 24-99.
 RX MEDLINE: 89184525.
 RA ROBINSON E.A., YOSHIMURA T., LEONARD E.J., TANAKA S., GRIFFIN P.R.,
 RA SHABANOWITZ J., HUNT D.F., APPELLA E.;
 RT "Complete amino acid sequence of a human monocyte chemoattractant, a
 RT putative mediator of cellular immune reactions.";
 RL PROC. NATL. ACAD. SCI. U.S.A. 86:1850-1854(1989).
 RN [9]
 RP SEQUENCE OF 29-53 AND 82-92.
 RX MEDLINE: 90211336.
 RA DECOCK B., CONINGS R., LENNERTS J.-P., BILIAU A., VAN DAMME J.;
 RT "Identification of the monocyte chemoattractant protein from human
 RT osteosarcoma cells and monocytes: detection of a novel N-terminally
 RT processed form.";
 RL BIOCHEM. BIOPHYS. RES. COMMUN. 167:904-909(1990).
 RN [10]
 RP 3D-STRUCTURE MODELLING.
 RX MEDLINE: 91312872.
 RA GRONENBORN A.M., CLORE G.M.;
 RT "Modeling the three-dimensional structure of the monocyte chemo-
 RT attractant and activating protein MCAF/MCP-1 on the basis of the
 RT solution structure of interleukin-8.";
 RL PROTEIN ENG. 4:263-269(1991).
 RN [11]
 RP X-RAY CRYSTALLOGRAPHY (1.85 ANGSTROMS).
 RX MEDLINE: 97143315.
 RA LUBKOWSKI J., BUJACZ G., DOMAILLE P.J., HANDEL T.M., WLODAWER A.;
 RT "The structure of MCP-1 in two crystal forms provides a rare example
 RT of variable quaternary interactions.";
 RL NAT. STRUCT. BIOL. 4:64-69(1997).
 RN [12]

RP STRUCTURE BY NMR.
 RX MEDLINE: 96234959.
 RA HANDEL T.M., DOMAILLE P.J.;
 RT "Heteronuclear (1H, 13C, 15N) NMR assignments and solution structure
 RL of the monocyte chemoattractant protein-1 (MCP-1) dimer.";
 RL BIOCHEMISTRY 35:6569-6584(1996).
 RN [13]
 RP EFFECT OF DELETION OF N-TERMINAL RESIDUES.
 RX MEDLINE: 96195223.
 RA WEBER W., UGUCCIONI M., BAGGIOLINI M., CLARK-LEWIS I., DAHINDEN C.A.;
 RT "Deletion of the N2-terminal residue converts monocyte chemoattractant
 RT protein 1 from an activator of basophil mediator release to an
 RT eosinophil chemoattractant.";
 RL J. EXP. MED. 183:681-685(1996).
 RN [14]
 RP MUTAGENESIS.
 RX MEDLINE: 94253189.
 RA ZHANG Y.J., RUTLEDGE B.J., ROLLINS B.J.;
 RT "Structure/activity analysis of human monocyte chemoattractant
 RT protein-1 (MCP-1) by mutagenesis. Identification of a mutated protein
 RT that inhibits MCP-1-mediated monocyte chemotaxis.";
 RL J. BIOL. CHEM. 269:15918-15924(1994).
 RN [15]
 RP SUBUNIT.
 RX MEDLINE: 97053697.
 RA KIM K.-S., RAJARATHNAM K., CLARK-LEWIS I., SYKES B.D.;
 RT "Structural characterization of a monomeric chemokine: monocyte
 RT chemoattractant protein-3.";
 RL FEBS LETT. 395:277-282(1996).
 CC -!- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES AND BASOPHILS
 CC BUT NOT NEUTROPHILS OR EOSINOPHILS. AUGMENTS MONOCYTE ANTI-TUMOR
 CC ACTIVITY. HAS BEEN IMPLICATED IN THE PATHOGENESIS OF DISEASES
 CC CHARACTERIZED BY MONOCYTIC INFILTRATES, LIKE PSORIASIS, RHEUMATOID
 CC ARTHRITIS OR ATHEROSCLEROSIS. MAY BE INVOLVED IN THE RECRUITMENT
 CC OF MONOCYTES INTO THE ARTERIAL WALL DURING THE DISEASE PROCESS OF
 CC ATHEROSCLEROSIS.
 CC -!- SUBUNIT: MONOMER OR HOMODIMER; IN EQUILIBRIUM.
 CC -!- PTM: PROCESSING AT THE N-TERMINUS CAN REGULATE RECEPTOR AND TARGET
 CC CELL SELECTIVITY. DELETION OF THE AMINO- TERMINAL RESIDUE CONVERTS
 CC IT FROM AN ACTIVATOR OF BASOPHIL TO AN EOSINOPHIL CHEMOATTRACTANT.
 CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
 CC C-C) (CHEMOKINE CC).
 CC -----
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 CC or send an email to license@isb-sib.ch).
 CC -----
 CC EMBL: M31626; G386961; -
 CC EMBL: M30816; G386961; JOINED.
 CC EMBL: M31625; G386961; JOINED.
 CC EMBL: M24545; G307163; -
 CC EMBL: M28226; G338009; -
 CC EMBL: X14768; G34514; -
 CC EMBL: M37719; G487124; -
 CC EMBL: M28225; G338007; -
 CC EMBL: M28223; G338007; JOINED.
 CC EMBL: M28224; G338007; JOINED.
 CC EMBL: M29738; G545465; -
 CC EMBL: S71513; G240868; -
 CC EMBL: A17786; G641145; -
 CC PIR: A35474; A35474.
 CC PIR: S03339; S03339.
 CC PDB: 1DOK; 12-MAR-97.
 CC PDB: 1DOL; 12-MAR-97.
 CC PDB: 1DOM; 14-OCT-96.
 CC PDB: 1DON; 14-OCT-96.
 CC PDB: 1MCA; 15-OCT-94.
 CC MIM: 158105; -
 CC PROSITE: PS00472; SMALL_CYTOKINES_CC; 1.

| | |
|---|--|
| DR | EMBL; U92653; GI144186; " |
| DR | PROSITE; PS00472; SMALL_CYTOKINES_CC; 1. |
| DR | PFAM; PF00048; i18; 1. |
| DR | HSP; P13500; IDON. |
| KW | CYTOKINE; CHEMOTAXIS; SIGNAL; INFLAMMATORY RESPONSE. |
| FT | SIGNAL 1 23 BY SIMILARITY. |
| FT | CHAIN 24 101 MONOCYTE CHEMOTACTIC PROTEIN 1. |
| FT | MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID (BY |
| FT | SMILARITY). |
| FT | DISULFID 34 59 BY SIMILARITY. |
| FT | DISULFID 35 75 BY SIMILARITY. |
| SQ | SEQUENCE 101 AA; 11121 MW; A7075B14 CRC32; |
| | |
| Query Match 94.7%; Score 90; DB 1; Length 101; | |
| Best Local Similarity 91.7%; Pred. No. 2.79e-08; | |
| Matches 11; Conservative 0; Mismatches 1; Indels 0; Gaps 0; | |
| | |
| Db | 73 EICADPKQKWQ 84 |
| | |
| QY | 1 EICADPTQKWQ 12 |
| | |
| RESULT | 5 STANDARD; PRT; 99 AA. |
| ID | MCPI_PIG |
| AC | P42831; |
| DT | 01-NOV-1995 (REL. 32; CREATED) |
| DT | 01-NOV-1995 (REL. 32; LAST SEQUENCE UPDATE) |
| DT | 15-JUL-1998 (REL. 36; LAST ANNOTATION UPDATE) |
| GN | MONOCYTE CHEMOTACTIC PROTEIN 1 PRECURSOR (MCP-1). |
| DE | SCYA2. |
| OS | SUS SCROFA (PIG). |
| OC | EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; |
| OC | ARTIODACTYLA; SUIFORMES; SUINA; SUIDAE; SUS. |
| RN | [1] |
| RP | SEQUENCE FROM N.A. |
| RR | MEDLINE; 94183284. |
| RX | HOSANG K., KNOKE I., KLAUDINY J., WEMPE F., WUTTKE W., SCHEIT K.H.; |
| RT | "Porcine luteal cells express monocyte chemoattractant protein-1 |
| RT | (MCP-1); analysis by polymerase chain reaction and cDNA cloning."; |
| RL | BIOCHEM. BIOPHYS. RES. COMMUN. 199;962-968(1994). |
| RN | [2] |
| RP | SEQUENCE FROM N.A. |
| RC | TISSUE=BRAIN; |
| RA | ZACH O.R.F.; |
| RL | SUBMITTED (JUL-1994) TO EMBL/GENBANK/DBJ DATA BANKS. |
| CC | -! FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES, BUT NOT |
| CC | NEUTROPHILS. |
| CC | -! SUBUNIT: MONOMER OR HOMODIMER; IN EQUILIBRIUM (BY SIMILARITY). |
| CC | -! SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE |
| CC | C-C) (CHEMOKINE CC). |
| CC | ----- |
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| CC | ----- |
| EMBL; Z48479; G683717; " | |
| EMBL; X79416; G872313; " | |
| PROSITE; PS00472; SMALL_CYTOKINES_CC; 1. | |
| PFAM; PF00048; i18; 1. | |
| HSP; P13500; IDON. | |
| CYTOKINE; CHEMOTAXIS; SIGNAL; INFLAMMATORY RESPONSE. | |
| SIGNAL 1 23 BY SIMILARITY. | |
| CHAIN 24 99 MONOCYTE CHEMOTACTIC PROTEIN 1. | |
| MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID (BY | |
| SMILARITY). | |
| DISULFID 34 59 BY SIMILARITY. | |
| DISULFID 35 75 BY SIMILARITY. | |
| SEQUENCE 99 AA; 10976 MW; ECC3AFB4 CRC32; | |


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Query Match      93.7%; Score 89; DB 1; Length 99;
Best Local Similarity 83.3%; Pred. No. 4.94e-08;
Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 73 EICADPKQKWQ 84
Qy 1 EICADPTQKWQ 12

RESULT 6
ID MCP2_BOVIN STANDARD; PRT; 99 AA.
AC Q09141;
DT 01-NOV-1995 (REL. 32, CREATED)
DT 01-NOV-1995 (REL. 32, LAST SEQUENCE UPDATE)
DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
DE MONOCYTE CHEMOTACTIC PROTEIN 2 PRECURSOR (MCP-2) (MONOCYTE
DE CHEMOATTRACTANT PROTEIN 2).
GN SCYA8 OR MCP2.
OS BOS TAURUS (BOVINE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC ARTIODACTYLA; RUMINANTIA; PECORA; BOVIDAE; BOVINAE; BOS.
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE; 94114084.
RA WEMPE F., HANES J., SCHEIT K.H.;
RA "Cloning of the gene for bovine monocyte chemoattractant protein-2.";
RT DNA CELL BIOL. 13:1-8(1994).
CC -!- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES. THIS PROTEIN
CC CAN BIND HEPARIN.
CC -!- SUBUNIT: MONOMER OR HOMODIMER; IN EQUILIBRIUM (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
CC C-C) (CHEMOKINE CC).
CC -----
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CC -----
DR EMBL; S67954; E118856; -.
DR EMBL; S67956; G544997; -.
DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
DR PFAM; PF00048; i18; 1.
DR HSP; P80098; INCV.
KW CYTOKINE; CHEMOTAXIS; SIGNAL; HEPARIN-BINDING; INFLAMMATORY RESPONSE.
FT SIGNAL 1 23 BY SIMILARITY.
FT CHAIN 24 99 MONOCYTE CHEMOTACTIC PROTEIN 2.
FT MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID (BY
FT SIMILARITY).
FT DISULFID 34 59 BY SIMILARITY.
FT DISULFID 35 75 BY SIMILARITY.
SQ SEQUENCE 99 AA; 10900 MW; 9BAZCD26 CRC32;

Query Match      91.6%; Score 87; DB 1; Length 99;
Best Local Similarity 75.0%; Pred. No. 1.54e-07;
Matches 9; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 73 DVCADPKQKWQ 84
Qy 1 EICADPTQKWQ 12

RESULT 7
ID MCP4_HUMAN STANDARD; PRT; 98 AA.
AC Q99616;
DT 15-JUL-1998 (REL. 36, CREATED)
DT 15-JUL-1998 (REL. 36, LAST SEQUENCE UPDATE)
DT 15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)
DE MONOCYTE CHEMOTACTIC PROTEIN 4 PRECURSOR (MCP-4) (MONOCYTE
DE CHEMOATTRACTANT PROTEIN 4) (CK-BETA10) (NCC-1).
GN SCYA13 OR MCP4 OR NCC1.

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OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC PRIMATES; CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RX TISSUE=HEART;
RX MEDLINE; 97113354.
RA GARCIA-ZEPEDA E.A., COMBADIERE C., ROTHENBERG M.E., SARAFI M.N.,
RA LAVIGNE F., HAMID Q., MURPHY P.M., LUSTER A.D.;
RA "Human monocyte chemoattractant protein (MCP)-4 is a novel CC
RT chemokine with activities on monocytes, eosinophils, and basophils
RT induced in allergic and nonallergic inflammation that signals through
RT the CC chemokine receptors (CCR)-2 and -3.";
RN J. IMMUNOL. 157:5613-5626(1996).
[2]
RP SEQUENCE FROM N.A., AND SEQUENCE OF 17-98.
RX TISSUE=FETAL;
RX MEDLINE; 96235049.
RA UGUCCIONI M., LOETSCHER P., FORSSMANN U., DEWALD B., LI H., LIMA S.H.,
RA LI Y., KREIDER B., GAROTTA G., THELEN M., BAGGIOLINI M.;
RA "Monocyte chemotactic protein 4 (MCP-4), a novel structural and
RT functional analogue of MCP-3 and eotaxin.";
RN J. EXP. MED. 183:2379-2384(1996).
[3]
RP SEQUENCE FROM N.A., AND SEQUENCE OF 22-33.
RX TISSUE=FETAL;
RX MEDLINE; 97341179.
RA BERKHOUT T.A., SARAU H.M., MOORES K., WHITE J.R., ELSHOURBAGY N.,
RA APPELBAUM E., REAPE T.J., BRANNER M., MAKWANA J., FOLEY J.J.,
RA SCHMIDT D.B., IMBURGIA C., MACNULTY D., MATTHEWS J., O'DONNELL K.,
RA O'SHANNESY D., SCOTT M., GROOT P.H.E., MACPHEE C.;
RT "Cloning, in vitro expression, and functional characterization of a
RT novel human CC chemokine of the monocyte chemotactic protein (MCP)
RT receptor 2B.";
RN J. BIOL. CHEM. 272:16404-16413(1997).
[4]
RP SEQUENCE FROM N.A.
RA DANTE M., GIBSON A.;
RN SUBMITTED (AUG-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
[5]
RP SEQUENCE FROM N.A.
RX TISSUE=LUNG;
RA POWER C.A., MEYER A., RISON S.C.G., GUYE-COULIN F., WELLS T.N.C.;
RA SUBMITTED (DEC-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
CC -!- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES, LYMPHOCYTES,
CC BASOPHILS AND EOSINOPHILS, BUT NOT NEUTROPHILS. SIGNALS THROUGH
CC CCR2B AND CCR3 RECEPTORS. PLAYS A ROLE IN THE ACCUMULATION OF
CC LEUKOCYTES AT BOTH SIDES OF ALLERGIC AND NONALLERGIC INFLAMMATION.
CC MAY BE INVOLVED IN THE RECRUITMENT OF MONOCYTES INTO THE ARTERIAL
CC WALL DURING THE DISEASE PROCESS OF ARTEROSCLEROSIS. MAY PLAY A
CC ROLE IN THE MONOCYTE ATTRACTION IN TISSUES CHRONICALLY EXPOSED TO
CC EXOGENOUS PATHOGENS.
CC -!- MASS SPECTROMETRY: MW=9314; MW_ERR=30; METHOD=MALDI; RANGE=17-98.
CC -!- MASS SPECTROMETRY: MW=8760; MW_ERR=30; METHOD=MALDI; RANGE=22-98.
CC -!- MASS SPECTROMETRY: MW=8575; MW_ERR=30; METHOD=MALDI; RANGE=24-98.
CC -!- INDUCTION: BY INTERLEUKIN-1 AND TNF-ALPHA.
CC -!- TISSUE SPECIFICITY: WIDELY EXPRESSED. FOUND IN SMALL INTESTINE,
CC THYMUS, COLON, LUNG, TRACHEA, STOMACH AND LYMPH NODE. LOW LEVELS
CC SEEN IN THE PULMONARY ARTERY SMOOTH MUSCLE CELLS.
CC -!- THIS PROTEIN CAN BIND HEPARIN.
CC -!- PTM: MAJOR ISOFORM MCP-4, AND TWO MINOR ISOFORMS (LA)MCP-4 AND
CC (FNPOGLA)MCP-4 ARE PRODUCED BY DIFFERENTIAL SIGNAL CLEAVAGE.
CC (LA)MCP-4 IS ABOUT 30 FOLD LESS ACTIVE THAN MCP-4.
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
CC C-C) (CHEMOKINE CC).
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CC -----
CC EMBL; U46767; G1732123;
CC DR EMBL; AC002482; G2340091;
CC DR EMBL; X98306; E248571;
CC DR MIM; 601391;
CC DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
CC DR PFAM; PF00048; i18; 1.
CC DR HSP; P13500; 1DOL.
KW CYTOKINE; CHEMOTAXIS; SIGNAL; GLYCOPROTEIN; INFLAMMATORY RESPONSE.
FT SIGNAL 1 23
FT CHAIN 24 98 MONOCYTE CHEMOTACTIC PROTEIN 4.
FT MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID.
FT DISULFID 34 58 BY SIMILARITY.
FT DISULFID 35 74 BY SIMILARITY.
FT CARBOHYD 29 29 POTENTIAL.
SQ SEQUENCE 98 AA; 10986 MW; DF52F6EC CRC32;

Query Match 90.5%; Score 86; DB 1; Length 98;
Best Local Similarity 83.3%; Pred. No. 2.70e-07;
Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 72 EICADPKKWKVQ 83
Qy 1 EICADPTOKWKVQ 12

RESULT 8
ID MCD2_PIG STANDARD; PRT; 99 AA.
AC P49873;
DT 01-OCT-1996 (REL. 34, CREATED)
DT 01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)
DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
DE MONOCYTE CHEMOTACTIC PROTEIN 2 PRECURSOR (MCP-2) (MONOCYTE
DE CHEMOATTRACTANT PROTEIN 2).
GN SCY48 OR MCP2.
OS SUS SCROFA (PIG).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC ARTIODACTYLA; SUIFORMES; SUINA; SUIDAE; SUS.
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE; 95091716.
RA HOSANG K.K., KNOKE I.I., KLAUDINY J.J., WEMPE F.F., WUTTKE W.W.,
RA SCHEIT K.K.;
RT "Porcine luteal cells express monocyte chemoattractant protein-2
RT (MCP-2): analysis by cDNA cloning and northern analysis.";
RL BIOCHEM. BIOPHYS. RES. COMMUN. 205:148-153(1994).
CC -!- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES. THIS PROTEIN
CC CAN BIND HEPARIN.
CC -!- SUBUNIT: MONOMER OR HOMODIMER; IN EQUILIBRIUM (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
CC C-C) (CHEMOKINE CC).
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CC -----
CC EMBL; Z48480; G683719;
CC DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
CC DR PFAM; PF00048; i18; 1.
CC DR HSP; P80098; 1NCV.
KW CYTOKINE; CHEMOTAXIS; SIGNAL; HEPARIN-BINDING; INFLAMMATORY RESPONSE.
FT SIGNAL 1 23 BY SIMILARITY.
FT CHAIN 24 99 MONOCYTE CHEMOTACTIC PROTEIN 2.
FT MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID (BY
FT SIMILARITY).
FT DISULFID 34 59 BY SIMILARITY.
FT DISULFID 35 75 BY SIMILARITY.
SQ SEQUENCE 99 AA; 10903 MW; B7620BCF CRC32;
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Query Match 90.5%; Score 86; DB 1; Length 99;
Best Local Similarity 83.3%; Pred. No. 2.70e-07;
Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 73 EVCADPKKWKVQ 84
Qy 1 EICADPTOKWKVQ 12
```

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RESULT 9
ID MCPA_BOVIN STANDARD; PRT; 99 AA.
AC P28291;
DT 01-DEC-1992 (REL. 24, CREATED)
DT 01-DEC-1992 (REL. 24, LAST SEQUENCE UPDATE)
DT 01-NOV-1995 (REL. 32, LAST ANNOTATION UPDATE)
DE MONOCYTE CHEMOTACTIC PROTEIN 1A PRECURSOR (MCP-1A) (ACIDIC
DE SEMINAL FLUID PROTEIN).
OS BOS TAURUS (BOVINE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC ARTIODACTYLA; RUMINANTIA; PECORA; BOVIDAE; BOVINAE; BOS.
RN [1]
RP SEQUENCE FROM N.A.
RX TISSUE-SEMINAL PLASMA;
RX MEDLINE; 92096117.
RA WEMPE F., HENSCHEN A., SCHEIT K.H.;
RT "Gene expression and cDNA cloning identified a major basic protein
RT constituent of bovine seminal plasma as bovine
RT monocyte-chemoattractant protein-1 (MCP-1).";
RL DNA CELL BIOL. 10:671-679(1991).
RN [2]
RP SEQUENCE FROM N.A.
RX TISSUE-SEMINAL PLASMA;
RX MEDLINE; 92181448.
RA WEMPE F., EINSPIANIER R., SCHEIT K.H.;
RT "Characterization by cDNA cloning of the mRNA of a new growth factor
RT from bovine seminal plasma: acidic seminal fluid protein.";
RL BIOCHEM. BIOPHYS. RES. COMMUN. 183:232-237(1992).
RN [3]
RP SEQUENCE FROM N.A.
RX MEDLINE; 94338337.
RA WEMPE F., KUHLMANN J.K., SCHEIT K.H.;
RT "Characterization of the bovine monocyte chemoattractant protein-1
RT gene.";
RL BIOCHEM. BIOPHYS. RES. COMMUN. 202:1272-1279(1994).
CC -!- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES, BUT NOT
CC NEUTROPHILS.
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
CC C-C) (CHEMOKINE CC).
CC -----
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CC -----
CC EMBL; L32659; G624394;
CC DR EMBL; M84602; G163395;
CC DR PIR; A39296; A39296.
CC DR PIR; JC2336; JC2336.
CC DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
CC DR PFAM; PF00048; i18; 1.
CC DR HSP; P13500; 1DON.
KW CYTOKINE; CHEMOTAXIS; SIGNAL.
FT SIGNAL 1 23 BY SIMILARITY.
FT CHAIN 24 99 MONOCYTE CHEMOTACTIC PROTEIN 1A.
FT MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID (BY
FT SIMILARITY).
FT DISULFID 34 59 BY SIMILARITY.
FT DISULFID 35 75 BY SIMILARITY.
SQ SEQUENCE 99 AA; 11114 MW; C8F5821D CRC32;
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Query Match 89.5%; Score 85; DB 1; Length 99;
Best Local Similarity 83.3%; Pred. No. 4.73e-07;
Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 73 ELCADPKQKWQ 84
QY 1 EICADPTQKWQ 12

RESULT 10
ID MCP1_RABBIT STANDARD; PRT; 125 AA.
AC P28292;
DT 01-DEC-1992 (REL. 24, CREATED)
DT 01-DEC-1992 (REL. 24, LAST SEQUENCE UPDATE)
DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
DE MONOCYTE CHEMOTACTIC PROTEIN 1 PRECURSOR (MCP-1).
GN SCV42.
OS ORYCTOLAGUS CUNICULUS (RABBIT).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC LAGOMORPHA; LEPORIDAE; ORYCTOLAGUS.
RN [1]
RP SEQUENCE FROM N.A.
RA STRAIN-NEW ZEALAND WHITE; TISSUE-SPLEEN;
RX MEDLINE: 91225489.
RA YOSHIMURA T., YUHKI N.;
RT "Neutrophil attractant/activation protein-1 and monocyte
chemoattractant protein-1 in rabbit. cDNA cloning and their
expression in spleen cells."
RL J. IMMUNOL. 146:3483-3488(1991).
CC -!- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES, BUT NOT
NEUTROPHILS.
CC -!- SUBUNIT: MONOMER OR HOMODIMER; IN EQUILIBRIUM (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
C-C) (CHEMOKINE CC).
CC -----
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between the Swiss Institute of Bioinformatics and the EMBL outstation -
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modified and this statement is not removed. Usage by and for commercial
entities requires a license agreement (See <http://www.isb-sib.ch/announcement/>
or send an email to license@isb-sib.ch).
CC -----
DR EMBL: M57440; G165470; .
DR PROSITE: PS00472; SMALL_CYTOKINES_CC; 1.
DR PFAM: PF00046; i18; 1.
DR HSSP: P13500; IDON.
KW CYTOKINE; CHEMOTAXIS; SIGNAL; INFLAMMATORY RESPONSE; GLYCOPROTEIN.
FT SIGNAL 1 23 BY SIMILARITY.
FT CHAIN 24 125 MONOCYTE CHEMOTACTIC PROTEIN 1.
FT MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID (BY
SIMILARITY).
FT DISULFID 34 59 BY SIMILARITY.
FT DISULFID 35 75 BY SIMILARITY.
FT CARBOHYD 40 40 POTENTIAL.
FT CARBOHYD 55 55 POTENTIAL.
FT CARBOHYD 112 112 POTENTIAL.
SQ SEQUENCE 125 AA; 13776 MW; FBAC9D27 CRC32;

Query Match 88.4%; Score 84; DB 1; Length 125;
Best Local Similarity 90.9%; Pred. No. 8.27e-07;
Matches 10; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Db 74 ICADPKQKWQ 84
QY 2 ICADPTQKWQ 12

RESULT 11
ID EOTA_RAT STANDARD; PRT; 97 AA.
AC P97545; 008780;
DT 15-JUL-1998 (REL. 36, CREATED)

15-JUL-1998 (REL. 36, LAST SEQUENCE UPDATE)
15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
DE EOTAXIN PRECURSOR (EOSINOPHIL CHEMOTACTIC PROTEIN).
OS RATIUS NORVEGICUS (RAT).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; RATTUS.
RN [1]
RP SEQUENCE FROM N.A.
RA WILLIAMS C.M., NEWTON D.J., WILSON S.A., COLEMAN J.C.,
RA FLANAGAN B.F.;
RL SUBMITTED (DEC-1996) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [2]
RP SEQUENCE FROM N.A.
RC TISSUE=LUNG;
RA ISHII Y.;
RL SUBMITTED (MAY-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
CC -!- FUNCTION: IN RESPONSE TO THE PRESENCE OF ALLERGENS, THIS PROTEIN
DIRECTLY PROMOTES THE ACCUMULATION OF EOSINOPHILS, A PROMINENT
FEATURE OF ALLERGIC INFLAMMATORY REACTIONS (BY SIMILARITY).
CC -!- SUBCELLULAR LOCATION: EXTRACELLULAR.
CC -!- PTM: O-GLYCOSYLATED (PROBABLE).
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
C-C) (CHEMOKINE CC).
CC -----
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entities requires a license agreement (See <http://www.isb-sib.ch/announcement/>
or send an email to license@isb-sib.ch).
CC -----
DR EMBL: Y08358; E274141; .
DR EMBL: U96637; G2098785; .
DR PROSITE: PS00472; SMALL_CYTOKINES_CC; 1.
DR PFAM: PF00048; i18; 1.
DR HSSP: P60098; INCV.
DR EOSINOPHIL; CYTOKINE; CHEMOTAXIS; GLYCOPROTEIN; SIGNAL;
KW INFLAMMATORY RESPONSE.
FT SIGNAL 1 23 POTENTIAL.
FT CHAIN 24 97 EOTAXIN.
FT DISULFID 32 57 BY SIMILARITY.
FT DISULFID 33 73 BY SIMILARITY.
FT CARBOHYD 94 94 POTENTIAL.
FT CONFLICT 3 3 L-> S (IN REF. 2).
SQ SEQUENCE 97 AA; 10851 MW; 05B4ED45 CRC32;

Query Match 87.4%; Score 83; DB 1; Length 97;
Best Local Similarity 83.3%; Pred. No. 1.44e-06;
Matches 10; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Db 71 EICADPKQKWQ 82
QY 1 EICADPTQKWQ 12

RESULT 12
ID EOTA_MOUSE STANDARD; PRT; 97 AA.
AC P48298;
DT 01-FEB-1996 (REL. 33, CREATED)
DT 01-FEB-1996 (REL. 33, LAST SEQUENCE UPDATE)
DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
DE EOTAXIN PRECURSOR (EOSINOPHIL CHEMOTACTIC PROTEIN).
GN SCV411.
OS MUS MUSCULUS (MOUSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; MUS.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=LUNG;
RX MEDLINE: 96004658.
RA ROTHENBERG M.E., LUSTER A.D., LEDER P.;
RT "Murine eotaxin: an eosinophil chemoattractant inducible in

CC CHEMOKINE THAT SIGNALS THROUGH CCR2. INVOLVED IN ALLERGIC
CC INFLAMMATION AND THE HOST RESPONSE TO PATHOGENS AND MAY PLAY A
CC PIVOTAL ROLE DURING EARLY STAGES OF ALLERGIC LUNG INFLAMMATION.
CC -!- SUBUNIT: HOMODIMER (BY SIMILARITY).
CC -!- TISSUE SPECIFICITY: PREDOMINANTLY EXPRESSED IN THE LYMPH NODES AND
CC THYMUS. ALSO FOUND IN THE SALIVARY GLANDS CONTAINING LYMPH NODES,
CC BREAST, HEART, LUNG, BRAIN, SMALL INTESTINE, KIDNEY AND COLON.
CC -!- INDUCTION: BY IFN-GAMMA AND LIPOPOLYSACCHARIDE (LPS).
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
CC C-C) (CHEMOKINE CC).
CC -----
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CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL: U50712; G1477582; -;
DR EMBL: U66670; G1881583; -;
DR MGD: MGI:108224; SCYAL2.
DR PROSITE: PS00472; SMALL_CYTOKINES_CC; 1.
DR PFAM: PF00048; i18; 1.
DR HSP: P13500; IDOL.
KW CYTOKINE; CHEMOTAXIS; SIGNAL; INFLAMMATORY RESPONSE.
FT SIGNAL 1 22 BY SIMILARITY.
FT CHAIN 23 104 MONOCYTE CHEMOTACTIC PROTEIN 5.
FT DISULFID 33 58 BY SIMILARITY.
FT DISULFID 34 74 BY SIMILARITY.
SQ SEQUENCE 104 AA; 11659 MW; 08FA6G35 CRC32;
Query Match 83.2%; Score 79; DB 1; Length 104;
Best Local Similarity 81.8%; Pred. No. 1.30e-05;
Matches 9; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 72 EICADPKKQWV 82
QY 1 EICADPTQKQWV 11
|||||:||||

Search completed: Fri Feb 4 17:45:21 2000
Job time : 6 secs.


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#introns 36/1; 75/2
CLASSIFICATION #superfamily macrophage inflammatory protein
KEYWORDS cytokine; glycoprotein; inflammation
FEATURE
1-33
34-109 #domain signal sequence #status predicted #label SIG\
#product monocyte chemotactic protein 3 #status
#predicted #label MATV
#binding_site carbohydrate (Asn) (covalent) #status
39 Predicted
SUMMARY #length 109 #molecular_weight 12356 #checksum 1535
Query Match 100.0%; Score 95; DB 2; Length 109;
Best Local Similarity 100.0%; Pred. No. 3.20e-08;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 83 EICADPTQKWQ 94
|:|||||
Qy 1 EICADPTQKWQ 12

RESULT 2
ENTRY I48147 #type complete
TITLE monocyte chemoattractant protein-1 - guinea pig
ORGANISM #formal_name Cavia porcellus #common_name guinea pig
DATE 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change
09-May-1997
ACCESSIONS I48147
REFERENCE Yoshimura, T.
#authors Yoshimura, T.; Leonard, E.J.
#journal Adv. Exp. Med. Biol. (1991) 305:47-56
#title Human monocyte chemoattractant protein-1 (MCP-1). Full-length
#title cDNA cloning, expression in mitogen-stimulated blood
#cross-references MUID:93267104
#accession I48147
#status preliminary; translated from GB/EMBL/DBJ
#molecule_type mRNA
#residues 1-120 #label RES
#cross-references GB:L04985; NID:g349820; PID:g349821
GENETICS MCP-1
#gene
CLASSIFICATION #superfamily macrophage inflammatory protein
SUMMARY #length 120 #molecular_weight 13741 #checksum 9252
Query Match 97.9%; Score 93; DB 2; Length 120;
Best Local Similarity 91.7%; Pred. No. 9.07e-08;
Matches 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Db 71 EVCADPTQKWQ 82
|:|||||
Qy 1 EICADPTQKWQ 12

RESULT 3
ENTRY A60299 #type complete
TITLE monocyte chemoattractant protein 1 precursor - human
ALTERNATE_NAMES GDCF-1; glioma-derived monocyte chemotactic factor 1; MCAF;
MCP-1; monocyte chemotactic factor 1; monocyte secretory
protein; tumor-derived chemotactic factor
glioma-derived chemotactic factor 2 (GDCF-2)
ORGANISM #formal_name Homo sapiens #common_name man
DATE 20-Feb-1993 #sequence_revision 20-Feb-1993 #text_change
20-Mar-1998
ACCESSIONS A35474; A33476; S03339; I51841; A60299; A32300; A32396;
A34561; I57488; JCL1096
REFERENCE A35474
#authors Shyy, Y.J.; Li, Y.S.; Kolattukudy, P.E.
#journal Biochem. Biophys. Res. Commun. (1990) 169:346-351
#title Structure of human monocyte chemotactic protein gene and its
#title regulation by TPA.
#cross-references MUID:90290466
#accession A35474
#molecule_type DNA
#residues 1-99 #label SHY

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#cross-references GB:M37719; NID:g187447; PID:g487124
REFERENCE A33476
#authors Rollins, B.J.; Stier, P.; Ernst, T.; Wong, G.G.
#journal Mol. Cell. Biol. (1989) 9:4687-4695
#title The human homolog of the JE gene encodes a monocyte secretory
protein.
#cross-references MUID:90097880
#accession A33476
#molecule_type mRNA
#residues 1-99 #label ROL
#cross-references GB:M30816; GB:M31625; GB:M31626; NID:g188701;
PID:g386961
REFERENCE S03339
#authors Yoshimura, T.; Yuhki, N.; Moore, S.K.; Appella, E.; Lerman,
M.I.; Leonard, E.J.
#journal FEBS Lett. (1989) 244:487-493
#title Human monocyte chemoattractant protein-1 (MCP-1). Full-length
#title cDNA cloning, expression in mitogen-stimulated blood
#title mononuclear leukocytes, and sequence similarity to mouse
#title competence gene JE.
#cross-references MUID:89153605
#accession S03339
#status not compared with conceptual translation
#molecule_type mRNA
#residues 1-99 #label YOS
#cross-references GB:X14788; NID:g34513; PID:g34514
#experimental_source glioma cell line U-105MG
REFERENCE I51841
#authors Yoshimura, T.; Leonard, E.J.
#journal Adv. Exp. Med. Biol. (1991) 305:47-56
#title Human monocyte chemoattractant protein-1 (MCP-1).
#cross-references MUID:92095166
#accession I51841
#status preliminary; translated from GB/EMBL/DBJ
#molecule_type mRNA
#residues 1-99 #label YO2
#cross-references GB:S71513; NID:g240867; PID:g240868
REFERENCE A60299
#authors Bottazzi, B.; Colotta, F.; Sica, A.; Nobili, N.; Mantovani,
A.
#journal Int. J. Cancer (1990) 45:795-797
#title A chemoattractant expressed in human sarcoma cells
#title (tumor-derived chemotactic factor, TDCF) is identical to
#title monocyte chemoattractant protein-1/monocyte chemotactic and
#title activating factor (MCP-1/MCAF).
#accession A60299
#status not compared with conceptual translation
#molecule_type mRNA
#residues 1-99 #label BOT
REFERENCE A32300
#authors Furutani, Y.; Nomura, H.; Notake, M.; Oyamada, Y.; Fukui, T.;
Yamada, M.; Larsen, C.G.; Oppenheim, J.J.; Matsushima, K.
#journal Biochem. Biophys. Res. Commun. (1989) 159:249-255
#title Cloning and sequencing of the cDNA for human monocyte
#title chemotactic and activating factor (MCAF).
#cross-references MUID:89165862
#accession A32300
#status not compared with conceptual translation
#molecule_type mRNA
#residues 1-99 #label FUR
#cross-references GB:M24545; NID:g187434; PID:g307163
REFERENCE A32396
#authors Robinson, E.A.; Yoshimura, T.; Leonard, E.J.; Tanaka, S.;
Griffin, P.R.; Shabanowitz, J.; Hunt, D.E.; Appella, E.
#journal Proc. Natl. Acad. Sci. U.S.A. (1989) 86:1850-1854
#title Complete amino acid sequence of a human monocyte
#title chemoattractant, a putative mediator of cellular immune
#title reactions.
#cross-references MUID:89184525
#accession A32396
#molecule_type protein
#residues 'X', 25-99 #label ROB
REFERENCE A34561

```


#authors Decock, B.; Conings, R.; Lenaerts, J.P.; Billiau, A.; Van Damme, J.
#journal Biochem. Biophys. Res. Commun. (1990) 167:904-909
#title Identification of the monocyte chemotactic protein from human osteosarcoma cells and monocytes: detection of a novel N-terminally processed form.
#cross-references MUID:90211336
#accession A34561
##molecule_type protein
##residues 29-33,'XX',36-52;82-92 ##label DEC
REFERENCE I57488
#authors Li, Y.S.; Shyy, Y.J.; Wright, J.G.; Valente, A.J.; Cornhill, J.F.; Kolattukudy, P.E.
#journal Mol. Cell. Biochem. (1993) 126:61-68
#title The expression of monocyte chemotactic protein (MCP-1) in human vascular endothelium in vitro and in vivo.
#cross-references MUID:94150478
#accession I57488
##molecule_type mRNA
##residues translated from GB/EMBL/DBJ
##status 1-99 ##label LIY
#cross-references GB:S69738; NID:g545464; PID:g545465
REFERENCE JC1096
#authors Ye, Q.N.; Su, G.F.; Yuan, Y.; Huang, C.F.
#journal Chinese J. Microbiol. Immunol. (1994) 14:29-32
#title The PCR, cloning and sequencing of human monocyte chemoattractant protein-1 (MCP-1) gene.
#accession JC1096
##molecule_type mRNA
##residues 24-28,'Q',30-99 ##label YEQ
GENETICS
#gene GDB:SCYA2
#map_position 17q11.2-17q12
CLASSIFICATION #superfamily macrophage inflammatory protein
KEYWORDS cytokine; glycoprotein; inflammation; pyroglutamic acid
FEATURE
1-23
24-99
29-99
24
37
#domain signal sequence #status predicted #label SIG\
#product monocyte chemoattractant protein 1 #status experimental #label MAT\
#product monocyte chemoattractant protein 1, short form #status experimental #label MAT2\
#modified_site pyrrolidone carboxylic acid (Gln) (in mature form) #status experimental\
#binding_site carbohydrate (Asn) (covalent) #status predicted
#length 99 #molecular-weight 11025 #checksum 7984
SUMMARY
Query Match 94.7%; Score 90; DB 2; Length 99;
Best Local Similarity 91.7%; Pred. No. 4.27e-07;
Matches 11; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
Db 73 EICADPQKQWV 84
QY 1 EICADPTQKQWV 12
RESULT 4
ENTRY JC2136
TITLE monocyte chemoattractant protein-1 precursor - pig
ORGANISM #formal_name Sus scrofa domestica #common_name domestic pig
DATE 30-Sep-1993 #sequence_revision 20-Aug-1994 #text_change 17-Mar-1999
ACCESSIONS JC2136; S57498
REFERENCE Hosang, K.; Knoke, I.; Klaudiny, J.; Wempe, F.; Wuttke, W.; Scheit, K.H.
#journal Biochem. Biophys. Res. Commun. (1994) 199:962-968
#title Porcine luteal cells express monocyte chemoattractant protein-1 (MCP-1): Analysis by polymerase chain reaction and cDNA cloning.
#cross-references MUID:94183284
#accession JC2136

##molecule_type mRNA
##residues 1-99 ##label HOS
REFERENCE S57497
#authors Zach, O.
#submission submitted to the EMBL Data Library, July 1994
#accession S57498
##status preliminary
##molecule_type mRNA
##residues 1-99 ##label ZAC
#cross-references EMBL:X79416; NID:g872312; PID:g872313
CLASSIFICATION #superfamily macrophage inflammatory protein
KEYWORDS glycoprotein
FEATURE
1-23
24-99
94
#domain signal sequence #status predicted #label SIG\
#product monocyte chemoattractant protein-1 #status predicted #label MAT\
#binding_site carbohydrate (Asn) (covalent) #status predicted
#length 99 #molecular-weight 10976 #checksum 9768
SUMMARY
Query Match 93.7%; Score 89; DB 2; Length 99;
Best Local Similarity 83.3%; Pred. No. 7.13e-07;
Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
Db 73 EICADPQKQWV 84
QY 1 EICADPTQKQWV 12
RESULT 5
ENTRY JC2417
TITLE monocyte chemoattractant protein-2 precursor - pig
ORGANISM #formal_name Sus scrofa domestica #common_name domestic pig
DATE 24-Feb-1995 #sequence_revision 24-Feb-1995 #text_change 17-Mar-1999
ACCESSIONS JC2417
REFERENCE Hosang, K.; Knoke, I.; Klaudiny, J.; Wempe, F.; Wuttke, W.; Scheit, K.H.
#journal Biochem. Biophys. Res. Commun. (1994) 205:148-153
#title Porcine luteal cells express monocyte chemoattractant protein-2 (MCP-2): Analysis by cDNA cloning and northern analysis.
#cross-references MUID:95091716
#accession JC2417
##molecule_type mRNA
##residues 1-99 ##label HOS
#experimental_source corpus luteum
CLASSIFICATION #superfamily macrophage inflammatory protein
FEATURE
1-23
24-99
#domain signal sequence #status predicted #label SIG\
#product monocyte chemoattractant protein-2 #status predicted #label MAT\
#length 99 #molecular-weight 10903 #checksum 7556
SUMMARY
Query Match 90.5%; Score 86; DB 2; Length 99;
Best Local Similarity 83.3%; Pred. No. 3.28e-06;
Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
Db 73 EVCADPQKQWV 84
QY 1 EICADPTQKQWV 12
RESULT 6
ENTRY A39296
TITLE monocyte chemoattractant protein 1 precursor - bovine
ALTERNATE_NAMES monocyte chemotactic factor 1; seminal plasma protein P6
ORGANISM #formal_name Bos primigenius taurus #common_name cattle
DATE 03-Aug-1992 #sequence_revision 03-Aug-1992 #text_change 31-Oct-1997
ACCESSIONS A39296; B39296
REFERENCE A39296

```

#authors      Wempe, F.; Henschen, A.; Scheit, K.H.
#journal      DNA Cell Biol. (1991) 10:671-679
#title        Gene expression and cDNA cloning identified a major basic
               protein constituent of bovine seminal plasma as bovine
               monocyte-chemoattractant protein-1 (MCP-1).
#cross-references MUID:92096117
#accession     A39296
#molecule_type mRNA
#residues      1-99 #label WEM
#cross-references GB:M84502; GB:M85264; NID:g163394; PID:g163395
#accession     B39296
#molecule_type protein
#residues      50-68,'X',70-74,'X',76 #label WE2
#experimental_source seminal vesicle
CLASSIFICATION #superfamily macrophage inflammatory protein
KEYWORDS       glycoprotein
FEATURE        1-23
               24-99
94             #domain signal sequence #status predicted #label SIG\
               #product monocyte chemoattractant protein 1 #status
               #binding_site carbohydrate (Asn) (covalent) #status
               predicted
SUMMARY         #length 99 #molecular-weight 11114 #checksum 9401

Query Match      89.5%; Score 85; DB 2; Length 99;
Best Local Similarity 83.3%; Pred. No. 5,44e-06;
Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 73 ELCADPKQKWQ 84
I:|||||
Qy 1 EICADPTQKWQ 12

RESULT 7
ENTRY   JC2336 #type complete
TITLE   monocyte chemoattractant protein-1 - bovine
ORGANISM #formal_name Bos primigenius indicus #common_name zebu cattle
DATE     20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change
03-May-1996
ACCESSIONS JC2336
REFERENCE   JC2336
#authors    Wempe, F.; Kuhlmann, J.K.; Scheit, K.H.
#journal     Biochem. Biophys. Res. Commun. (1994) 202:1272-1279
#title       Characterization of the bovine monocyte chemoattractant
               protein-1 gene.
#cross-references MUID:94338337
#accession   JC2336
#molecule_type protein
#residues    1-99 #label WEM
GENETICS     MCP-1
#gene        26/L; 65/2
#introns
CLASSIFICATION #superfamily macrophage inflammatory protein
SUMMARY       #length 99 #molecular-weight 11114 #checksum 9401

Query Match      89.5%; Score 85; DB 2; Length 99;
Best Local Similarity 83.3%; Pred. No. 5,44e-06;
Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 73 ELCADPKQKWQ 84
I:|||||
Qy 1 EICADPTQKWQ 12

RESULT 8
ENTRY   I46857 #type complete
TITLE   monocyte chemoattractant protein-1 - rabbit
ORGANISM #formal_name Oryctolagus cuniculus #common_name domestic
               rabbit
DATE     14-Feb-1997 #sequence_revision 14-Feb-1997 #text_change
09-May-1997
ACCESSIONS I46857
REFERENCE   I46857
#authors    Ishikawa, J.; Suzuki, S.; Hotta, K.; Hirota, Y.; Mizuno, S.;
               Gene (1993) 131:305-306
               Cloning of a canine gene homologous to the human
               interleukin-8-encoding gene.
#journal     J. Immunol. (1991) 146:3483-3488
#title       Neutrophil attractant/activation protein-1 and monocyte
               chemoattractant protein-1 in rabbit: cDNA cloning and their
               expression in spleen cells.
#cross-references MUID:91225489
#accession     I46857
#molecule_type mRNA
#residues      1-125 #label YOS
#cross-references GB:M57440; NID:g165469; PID:g165470
CLASSIFICATION #superfamily macrophage inflammatory protein
SUMMARY       #length 125 #molecular-weight 13776 #checksum 4498

Query Match      88.4%; Score 84; DB 2; Length 125;
Best Local Similarity 90.9%; Pred. No. 8,99e-06;
Matches 10; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Db 74 ICADPKQKWQ 84
I:|||||
Qy 2 ICADPTQKWQ 12

RESULT 9
ENTRY   JC4912 #type complete
TITLE   eotaxin precursor - human
ORGANISM #formal_name Homo sapiens #common_name man
DATE     01-Nov-1996 #sequence_revision 01-Nov-1996 #text_change
13-Nov-1998
ACCESSIONS JC4912
REFERENCE   JC4912
#authors    Bartels, J.; Schlueter, C.; Richter, E.; Noso, N.; Kulke, R.;
               Christophers, E.; Schroeder, J.M.
#journal     Biochem. Biophys. Res. Commun. (1996) 225:1045-1051
#title       Human dermal fibroblasts express eotaxin: Molecular cloning,
               mRNA expression, and identification of eotaxin sequence
               variants.
#accession   JC4912
#status      preliminary
#molecule_type mRNA
#residues    1-97 #label BAR
#cross-references EMBL:Z7568; NID:g1531982; PID:e251275; PID:g1531983
#experimental_source dermal fibroblast
COMMENT      This protein has eosinophil specific chemotactic activity.
CLASSIFICATION #superfamily macrophage inflammatory protein
KEYWORDS      fibroblast
FEATURE        1-18
               19-97
SUMMARY       #domain signal sequence #status predicted #label SIG\
               #product eotaxin #status predicted #label MAT
               #length 97 #molecular-weight 10790 #checksum 448

Query Match      83.2%; Score 79; DB 2; Length 97;
Best Local Similarity 66.7%; Pred. No. 1.07e-04;
Matches 8; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Db 71 DICADPKRWQ 82
I:|||||
Qy 1 EICADPTQKWQ 12

RESULT 10
ENTRY   JN0841 #type complete
TITLE   interleukin-8 - dog
ORGANISM #formal_name Canis lupus familiaris #common_name dog
DATE     19-May-1994 #sequence_revision 19-May-1994 #text_change
12-Apr-1995
ACCESSIONS JN0841
REFERENCE   JN0841
#authors    Ishikawa, J.; Suzuki, S.; Hotta, K.; Hirota, Y.; Mizuno, S.;
               Gene (1993) 131:305-306
               Cloning of a canine gene homologous to the human
               interleukin-8-encoding gene.
#journal     J. Immunol. (1991) 146:3483-3488
#title       Neutrophil attractant/activation protein-1 and monocyte
               chemoattractant protein-1 in rabbit: cDNA cloning and their
               expression in spleen cells.
#cross-references MUID:91225489
#accession     I46857
#molecule_type mRNA
#residues      1-125 #label YOS
#cross-references GB:M57440; NID:g165469; PID:g165470
CLASSIFICATION #superfamily macrophage inflammatory protein
SUMMARY       #length 125 #molecular-weight 13776 #checksum 4498

```

```
#cross-references MUID:94010328
#accession JN0841
#molecule_type DNA
##residues 1-95 ##label ISH
COMMENT This protein is a polymorphonuclear leukocytes chemotactic factor
and is involved in the host defense function.
GENETICS
#introns 22/1; 67/2
CLASSIFICATION #superfamily beta-thromboglobulin
SUMMARY #length 95 #molecular-weight 10611 #checksum 3157

Query Match 81.1%; Score 77; DB 2; Length 95;
Best Local Similarity 66.7%; Pred. No. 2.85e-04;
Matches 8; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Db 75 EVCLDPKKEKWQ 86
|:|:|:|:|
Qy 1 EICADPTQKWQ 12

RESULT 11
ENTRY JN0841 #type complete
TITLE eotaxin precursor - rat
ORGANISM #formal_name Rattus norvegicus #common_name Norway rat
DATE 21-Feb-1995 #sequence_revision 05-Apr-1995 #text_change
17-Mar-1999
ACCESSIONS JN0841
REFERENCE JN0841
#authors Jose, P.J.; Adcock, I.M.; Griffiths-Johnson, D.A.; Berkman,
N.; Wells, T.N.C.; Williams, T.J.; Power, C.A.
#journal Biochem. Biophys. Res. Commun. (1994) 205:788-794
#title Eotaxin: Cloning of an eosinophil chemoattractant cytokine
and increased mRNA expression in allergen-challenged
guinea-pig lungs.
#cross-references MUID:95091818
#accession JN0841
#molecule_type mRNA
##residues 1-95 ##label JOS
##cross-references EMBL:X77603; NID:g602551; PID:g602552
COMMENT This protein is identified as a potent eosinophil chemoattractant.
CLASSIFICATION #superfamily macrophage inflammatory protein
KEYWORDS glycoprotein
FEATURE
1-23 #domain signal sequence #status predicted #label SIG\
24-96 #product eotaxin #status predicted #label MAT\
93 #binding_site carbohydrate (Thr) (covalent) #status
predicted
SUMMARY #length 96 #molecular-weight 10695 #checksum 7329

Query Match 81.1%; Score 77; DB 2; Length 96;
Best Local Similarity 81.8%; Pred. No. 2.85e-04;
Matches 9; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Db 71 ICADPKKKWQ 81
|:|:|:|:|
Qy 2 ICADPTQKWQ 12

RESULT 12
ENTRY JN0841 #type complete
TITLE eotaxin precursor - guinea pig
ORGANISM #formal_name Cavia porcellus #common_name guinea pig
DATE 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change
09-May-1997
ACCESSIONS JN0841
REFERENCE JN0841
#authors Rothenberg, M.E.; Luster, A.D.; Lilly, C.M.; Drazen, J.M.;
Leder, P.
#journal J. Exp. Med. (1995) 181:1211-1216
#title Constitutive and allergen-induced expression of eotaxin mRNA
in the guinea pig lung.
#cross-references MUID:95173589
#accession JN0841
```

```
#status preliminary; translated from GB/EMBL/DBJ
#molecule_type mRNA
##residues 1-96 ##label RES
##cross-references EMBL:U18941; NID:g687655; PID:g687656
CLASSIFICATION #superfamily macrophage inflammatory protein
SUMMARY #length 96 #molecular-weight 10753 #checksum 7236

Query Match 81.1%; Score 77; DB 2; Length 96;
Best Local Similarity 81.8%; Pred. No. 2.85e-04;
Matches 9; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Db 71 ICADPKKKWQ 81
|:|:|:|:|
Qy 2 ICADPTQKWQ 12

RESULT 13
ENTRY I46997 #type complete
TITLE interleukin-8 - sheep
ORGANISM #formal_name Ovis sp. #common_name sheep
DATE 21-Feb-1997 #sequence_revision 21-Feb-1997 #text_change
09-May-1997
ACCESSIONS I46997
REFERENCE I46997
#authors Seow, H.F.; Yoshimura, T.; Wood, P.R.; Colditz, I.G.
#journal Immunol. Cell Biol. (1994) 72:398-405
#title Cloning, sequencing, expression and inflammatory activity in
skin of ovine interleukin-8.
#cross-references MUID:95137691
#accession I46997
#status preliminary; translated from GB/EMBL/DBJ
##residues 1-101 ##label SEO
##cross-references GB:S74436; NID:g786590; PID:g786591
GENETICS
#gene OIL-8
CLASSIFICATION #superfamily beta-thromboglobulin
SUMMARY #length 101 #molecular-weight 11292 #checksum 294

Query Match 81.1%; Score 77; DB 2; Length 101;
Best Local Similarity 66.7%; Pred. No. 2.85e-04;
Matches 8; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Db 75 EVCLDPKKEKWQ 86
|:|:|:|:|
Qy 1 EICADPTQKWQ 12

RESULT 14
ENTRY S42496 #type complete
TITLE interleukin 8 - sheep
ORGANISM #formal_name Ovis orientalis aries, Ovis ammon aries
#common_name domestic sheep
DATE 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change
08-Sep-1997
ACCESSIONS S42496
REFERENCE S42496
#authors Legastelois, I.; Greenland, T.; Arnaud, P.; Mornex, J.F.;
Cordier, G.
#submission submitted to the EMBL Data Library, March 1994
#description Nucleotide sequence of ovine interleukin 8 cDNA using
polymerase chain reaction.
#accession S42496
#status preliminary
#molecule_type mRNA
##residues 1-101 ##label LEG
##cross-references EMBL:X78306; NID:g463253; PID:g463254
CLASSIFICATION #superfamily beta-thromboglobulin
SUMMARY #length 101 #molecular-weight 11292 #checksum 294

Query Match 81.1%; Score 77; DB 2; Length 101;
Best Local Similarity 66.7%; Pred. No. 2.85e-04;
Matches 8; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
```

Db 75 EVCLDPKRWQ 86
I: I I I I I I
QY 1 EICADPTQKWQ 12

RESULT 15
ENTRY A53096 #type complete
TITLE interleukin-8 precursor - pig
ORGANISM #formal name Sus scrofa domestica #common_name domestic pig
DATE 02-Jun-1995 #sequence_revision 02-Jun-1995 #text_change 08-Sep-1997

ACCESSIONS A53096
REFERENCE A53096
#authors Lin, G.; Pearson, A.E.; Scamurra, R.W.; Zhou, Y.; Baarsch, M.J.; Weiss, D.J.; Murtaugh, M.P.
#journal J. Biol. Chem. (1994) 269:77-85
#title Regulation of interleukin-8 expression in porcine alveolar macrophages by bacterial lipopolysaccharide.
#cross-references MUID:94103307
#accession A53096
#status preliminary
#molecule_type mRNA
#residues 1-103 #label LIN
#cross-references GB:M86923; NID:g164520; PID:g164521
CLASSIFICATION #superfamily beta-thromboglobulin
SUMMARY #length 103 #molecular-weight 11633 #checksum 8835

Query Match 81.1%; Score 77; DB 2; Length 103;
Best Local Similarity 66.7%; Pred. No. 2.85e-04;
Matches 8; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Db 75 EVCLDPKRWQ 86
I: I I I I I I
QY 1 EICADPTQKWQ 12

Search completed: Fri Feb 4 17:44:58 2000
Job time : 22 secs.

W A S E R E H (TM)

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MPsrch_pp protein - protein database search, using Smith-Waterman algorithm

Run on: Fri Feb 4 17:44:01 2000; MasPar time 3.51 Seconds
72.692 Million cell updates/sec
Tabular output not generated.

Title: >US-09-150-813-66

Description: (1-12) from US09150813.pap

Perfect Score: 95

Sequence: 1 EICADPTQKWVQ 12

Scoring table: PAM 150

Gap 15

Searched: 170751 seqs, 21266608 residues

Post-processing: Minimum Match 0%
Listing first 45 summaries

Database: a-geneseq35

1:part1 2:part2 3:part3 4:part4 5:part5 6:part6 7:part7
8:part8 9:part9 10:part10 11:part11 12:part12 13:part13
14:part14 15:part15 16:part16 17:part17 18:part18
19:part19 20:part20 21:part21 22:part22 23:part23
24:part24 25:part25 26:part26 27:part27 28:part28
29:part29 30:part30 31:part31 32:part32 33:part33
34:part34 35:part35 36:part36 37:part37 38:part38
39:part39

Statistics: Mean 18.261; Variance 66.240; scale 0.276

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match | Length | ID | Description | Pred. No. |
|------------|-------|-------------|--------|----|--|-----------|
| 1 | 95 | 100.0 | 67 | 14 | R73915 Human monocyte chemoattractant factor hMCP-3. | 1.76e-02 |
| 2 | 95 | 100.0 | 99 | 13 | R70801 Chemoattractant prote | 1.76e-02 |
| 3 | 95 | 100.0 | 109 | 2 | R24353 Cytokine encoded by c | 1.76e-02 |
| 4 | 90 | 94.7 | 66 | 24 | W13598 Monocyte chemoattract | 5.67e-02 |
| 5 | 90 | 94.7 | 67 | 24 | W13599 Monocyte chemoattract | 5.67e-02 |
| 6 | 90 | 94.7 | 68 | 24 | W13597 Monocyte chemoattract | 5.67e-02 |
| 7 | 90 | 94.7 | 69 | 14 | R87678 des(2-8) MCP-1 | 5.67e-02 |
| 8 | 90 | 94.7 | 69 | 24 | W13596 Monocyte chemoattract | 5.67e-02 |
| 9 | 90 | 94.7 | 76 | 14 | R87677 (3-Ala) MCP-1. | 5.67e-02 |
| 10 | 90 | 94.7 | 76 | 14 | R87680 Monocyte chemotactic | 5.67e-02 |
| 11 | 90 | 94.7 | 76 | 20 | W09374 Mature human monocyte | 5.67e-02 |
| 12 | 90 | 94.7 | 76 | 21 | W11131 Macrophage chemoattra | 5.67e-02 |
| 13 | 90 | 94.7 | 76 | 30 | W40175 Peptide from human g1 | 5.67e-02 |
| 14 | 90 | 94.7 | 76 | 1 | P90292 Sense MCP-1. | 5.67e-02 |
| 15 | 90 | 94.7 | 76 | 10 | R53398 (28-Asp) MCP-1. | 5.67e-02 |
| 16 | 90 | 94.7 | 76 | 14 | R87675 | 5.67e-02 |

| | | | | | | |
|----|----|------|----|----|------------------------------|----------|
| 17 | 90 | 94.7 | 76 | 5 | R28660 MCF. | 5.67e-02 |
| 18 | 90 | 94.7 | 76 | 14 | R87676 (24-Arg) MCP-1. | 5.67e-02 |
| 19 | 90 | 94.7 | 77 | 15 | R86859 Mature MCP-1. | 5.67e-02 |
| 20 | 90 | 94.7 | 77 | 15 | R86859 Macrophage chemoattra | 5.67e-02 |
| 21 | 90 | 94.7 | 99 | 14 | W40174 Human monocyte chemoa | 5.67e-02 |
| 22 | 90 | 94.7 | 99 | 2 | P93387 Human monocyte chemo- | 5.67e-02 |
| 23 | 90 | 94.7 | 99 | 5 | R28663 MCF. | 5.67e-02 |
| 24 | 90 | 94.7 | 99 | 13 | R70800 Chemoattractant prote | 1.43e-01 |
| 25 | 86 | 90.5 | 71 | 26 | W22675 Drol3+ chemokine beta | 1.43e-01 |
| 26 | 86 | 90.5 | 75 | 31 | W56690 Chemokine MCP-4 prote | 1.43e-01 |
| 27 | 86 | 90.5 | 75 | 26 | W22673 Bac 3 chemokine betal | 1.43e-01 |
| 28 | 86 | 90.5 | 77 | 26 | W22672 Bac 2 chemokine betal | 1.43e-01 |
| 29 | 86 | 90.5 | 79 | 26 | W22674 Drol1/2 chemokine bet | 1.43e-01 |
| 30 | 86 | 90.5 | 82 | 26 | W22671 Bac 1 chemokine betal | 1.43e-01 |
| 31 | 86 | 90.5 | 82 | 24 | W17665 Stem cell mobilising | 1.43e-01 |
| 32 | 86 | 90.5 | 98 | 28 | W30191 Monocyte chemotactic | 1.43e-01 |
| 33 | 86 | 90.5 | 98 | 31 | W56087 Human monocyte chemoa | 1.43e-01 |
| 34 | 86 | 90.5 | 98 | 26 | W22670 Human chemokine betal | 1.43e-01 |
| 35 | 86 | 90.5 | 99 | 17 | R93087 Human chemokine beta- | 1.43e-01 |
| 36 | 86 | 90.5 | 99 | 2 | R06398 Human MCF precursor. | 1.43e-01 |
| 37 | 85 | 89.5 | 76 | 5 | R26580 Sequence of P6 precur | 1.81e-01 |
| 38 | 85 | 89.5 | 99 | 5 | R26581 Sequence of P6 precur | 1.81e-01 |
| 39 | 82 | 86.3 | 82 | 29 | W44721 Amino acid sequence o | 3.60e-01 |
| 40 | 82 | 86.3 | 97 | 23 | W10099 Human eotaxin. | 3.60e-01 |
| 41 | 82 | 86.3 | 97 | 24 | W14990 Human eosinocyte CC t | 3.60e-01 |
| 42 | 82 | 86.3 | 97 | 21 | W00667 Pancreas expressed ch | 3.60e-01 |
| 43 | 80 | 84.2 | 60 | 24 | W17662 Stem cell mobilising | 5.68e-01 |
| 44 | 80 | 84.2 | 89 | 21 | W07204 Human cytokine beta-1 | 5.68e-01 |
| 45 | 80 | 84.2 | 89 | 33 | W57698 Human MIP-4 protein. | 5.68e-01 |

ALIGNMENTS

RESULT 1
ID R73915 standard; protein; 67 AA.

AC R73915;
DT 05-DEC-1995 (first entry)
DE Human monocyte chemoattractant factor hMCP-3.
KW Human monocyte chemoattractant factor; hMCP-3; chemokine; vaccine;
KW meningitis related homologous antigenic sequence; MRHAS; RV-1;
KW immunosay; diagnosis; treatment; prophylactic; bacterial;
KW viral.
OS Homo sapiens.
PN W09509232-A.
PD 06-APR-1995.
PF 28-SEP-1994; CA0516.
PR 28-SEP-1993; US-127499.
PA (SHAR/) SHARMA L R.
PI (VALS/) VAN ALSTYNE D.
PI Sharma LR, Van Alstyne D;
DR WPI: 95-147431/19.
PT New peptide(s) and corresp. antibodies for the treatment of
PT meningitis - the peptide(s) corresp. to homologous antigenic
PT sites on bacterial and viral agents and on chemokine(s), used for
PT detecting and preventing meningitis
PS Claim 47; Fig 8/10; 98pp; English.
CC R73915 is the chemokine Human monocyte chemoattractant factor hMCP-3.
CC It contains the meningitis related antigenic sequences (MRHAS) claimed
CC in R73896 and R73908, which are recognised by a monoclonal antibody
CC from the hybridoma Rubella virus (RV)-1. The claimed MRHAS peptides
CC may be used in immunoassays to diagnose the presence of bacterial
CC and/or viral meningitis agents in a sample, or in prophylactic and
CC therapeutic meningitis treatments. The peptides may also be used as
CC vaccines against meningitis.
CC NB: Identified by matching corresponding MRHAS peptides.
SQ Sequence 67 AA;

Query Match 100.0%; Score 95; DB 14; Length 67;
Best Local Similarity 100.0%; Pred. No. 1.76e-02;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Db 41 eicadptqkwvq 52
|||||||

Qy 1 EICADPTQKWVQ 12

RESULT 2
ID R70801; standard; Protein; 99 AA.

DT 29-AUG-1995 (first entry)
DE Chemoattractant protein MCP-3.
KW MCP-3; chemoattractant; heparanase; heparin; heparan sulfate;
arthritis; restenosis; cancer; wound healing.
OS Homo sapiens.
PN W09504158-A.
PD 09-FEB-1995.
PF 26-JUL-1994; U08207.
PR 29-JUL-1993; US-099866.
PR 13-OCT-1993; US-136117.
PA (UPJO) UPJOHN CO.
PI Hoogwerf AJ. Ledbetter SR;
DR WPI; 95-082239/11.
DR N-PSDB; Q85371.
PT Screening for cpds. with anti-heparanase activity - by detecting
inhibition of heparin or heparan sulphate degradation,
potentially useful for treating arthritis, restenosis, cancer.
PS Claim 13; Page 50; 60pp; English.
CC Purified heparanases, prepared under reducing conditions and
activated with transglutaminase, are given in R70786-801. Most
are prepared by reverse transcription of mRNA from activated human
leukocytes, then cloning of the cDNA into pVL1392 baculovirus
vector, and expression in Sf9 cells in the presence of reduced
glutathione and dithiothreitol.
SQ Sequence 99 AA;

Query Match 100.0%; Score 95; DB 13; Length 99;
Best Local Similarity 100.0%; Pred. NO. 1.76e-02;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 73 eicadptqkwvq 84
|||||
Qy 1 EICADPTQKWVQ 12

RESULT 3
ID R24353; standard; Protein; 109 AA.

DT 26-NOV-1992 (first entry)
DE Cytokine encoded by clone NC28.
KW Cytokine; plasmid pSE1; HTLV-1; human T-lymphocyte virus;
KW mouse; alpha-globin; E.coli cloning vector; ss.
OS Synthetic.
FH Key Location/Qualifiers
FT peptide 1..33
FT /label= signal
FT /note= "includes 3 potential initiation sites"
FT protein 34..109
FT /label= cytokine
FT modified_site 39..41
FT /label= N-glycosylation
FT /note= "putative"

PN EP-488900-A.
PD 03-JUN-1992.
PF 29-NOV-1991; 403243.
PR 29-NOV-1990; FR-014961.
PA (ERAP) ELF SANOFI.
PA (SNFI) SANOFI SA.
PI Caput D, Ferrara P, Miloux B, Minty A, Vita N;
DR WPI; 92-185765/23.
DR N-PSDB; Q25259.
PT New monocyte chemoattractive cytokine - for treatment of cancer
and parasitic infections, e.g. leishmaniasis, leprosy or Chagas
disease
PS Claim 1; Fig 2; 45pp; French.
CC This protein is encoded by the NC28 clone isolated from
peripheral blood mononuclear cells stimulated with phorbol

CC 2-myristate-3-acetate (see Q25259). The mature protein is claimed.
CC It can be N-terminally deleted such that the mature protein starts
at Val 3 or at Lys 19. The leader sequence is active in animal
CC cells. See Q25258-Q25262.
SQ Sequence 109 AA;

Query Match 100.0%; Score 95; DB 2; Length 109;
Best Local Similarity 100.0%; Pred. NO. 1.76e-02;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 83 eicadptqkwvq 94
|||||
Qy 1 EICADPTQKWVQ 12

RESULT 4

ID W13598; standard; peptide; 66 AA.
AC W13598;
DT 07-NOV-1997 (first entry)
DE Monocyte chemoattractant protein analogue MCP-1 (10-76).
KW Truncated monocyte chemoattractant protein-1; inhibitor;
receptor binding; anti inflammatory; basophil; lymphocyte; allergy;
chronic inflammatory disease; arthritis; arteriosclerosis;
lung disease.
OS Homo sapiens.
PN CA2152141-A.
PD 20-DEC-1996.
PF 19-JUN-1995; 152141.
PR 19-JUN-1995; CA-152141.
PA (LEWI/) LEWIS I.
PI Gong J, Lewis I;
DR WPI; 97-165844/16.
PT N-terminally truncated monocyte chemoattractant protein-1 (MCP-1) -
lacks MCP-1 activity and inhibits receptor binding, useful as
anti-inflammatory agent
PS Disclosure: Page 5; 27pp; English.
CC The present sequence represents an analogue, MCP-1 (10-76), of monocyte
chemoattractant protein-1 (MCP-1). The analogue, which lacks the
N-terminal amino acids 1-9 of MCP-1, acts as an antagonist of MCP-1
as it lacks MCP-1 biological activity and inhibits binding to a MCP-1
receptor. The analogue is useful as an anti-inflammatory agent to block
the effects of MCP-1 which is an inflammatory mediator causing migration
of monocytes and other cells e.g. basophils and lymphocytes into
inflammation sites. MCP-1 has been implicated in allergic and chronic
inflammatory diseases e.g. arthritis, arteriosclerosis and several lung
diseases. The analogue competes more effectively with MCP-1 for binding
MCP-1 receptors than prior art mutant versions of MCP-1 e.g. preferably
providing 50% inhibition of binding at a 25:1 ratio or less, compared
with 75:1 for prior art mutant 7ND.
SQ Sequence 66 AA;

Query Match 94.7%; Score 90; DB 24; Length 66;
Best Local Similarity 91.7%; Pred. NO. 5.67e-02;
Matches 11; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Db 40 eicadptqkwvq 51
|||||
Qy 1 EICADPTQKWVQ 12

RESULT 5

ID W13599; standard; peptide; 67 AA.
AC W13599;
DT 07-NOV-1997 (first entry)
DE Monocyte chemoattractant protein analogue MCP-1 (11-76).
KW Truncated monocyte chemoattractant protein-1; inhibitor;
receptor binding; anti inflammatory; basophil; lymphocyte; allergy;
chronic inflammatory disease; arthritis; arteriosclerosis;
lung disease.
OS Homo sapiens.
PN CA2152141-A.
PD 20-DEC-1996.
PF 19-JUN-1995; 152141.

PR 19-JUN-1995; CA-152141.
PA (LEWI/) LEWIS I.
PI Gong J, Lewis I;
DR WPI; 97-165844/16.
PT N-terminally truncated monocyte chemoattractant protein-1 (MCP-1) -
PT lacks MCP-1 activity and inhibits receptor binding, useful as
PT anti-inflammatory agent
PS Disclosure; Page 5; 27pp; English.
CC The present sequence represents an analogue, MCP-1 (11-76), of monocyte
CC chemoattractant protein-1 (MCP-1). The analogue, which lacks the
CC N-terminal amino acids 1-10 of MCP-1, acts as an antagonist of MCP-1
CC as it lacks MCP-1 biological activity and inhibits binding to a MCP-1
CC receptor. The analogue is useful as an anti-inflammatory agent to block
CC the effects of MCP-1 which is an inflammatory mediator causing migration
CC of monocytes and other cells e.g. basophils and lymphocytes into
CC inflammation sites. MCP-1 has been implicated in allergic and chronic
CC inflammatory diseases e.g. arthritis, arteriosclerosis and several lung
CC diseases. The analogue competes more effectively with MCP-1 for binding
CC MCP-1 receptors than prior art mutant versions of MCP-1 e.g. preferably
CC providing 50% inhibition of binding at a 25:1 ratio or less, compared
CC with 75:1 for prior art mutant 7ND.
SQ Sequence 67 AA;

Query Match 94.7%; Score 90; DB 24; Length 67;
Best Local Similarity 91.7%; Pred. No. 5.67e-02;
Matches 11; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Db 41 eicadpkqkwvq 52
||||| |||||
QY 1 EICADPTQKWVQ 12

RESULT 6
ID W13597 standard; peptide: 68 AA.
AC W13597;
DT 07-NOV-1997 (first entry)
DE Monocyte chemoattractant protein analogue MCP-1 (9-76).
KW Truncated monocyte chemoattractant protein-1; inhibitor;
KW receptor binding; anti inflammatory; basophil; lymphocyte; allergy;
KW chronic inflammatory disease; arthritis; arteriosclerosis;
KW lung disease.
OS Homo sapiens.
PN CA2152141-A.
PD 20-DEC-1996.
PF 19-JUN-1995; 152141.
PR 19-JUN-1995; CA-152141.
PA (LEWI/) LEWIS I.
PI Gong J, Lewis I;
DR WPI; 97-165844/16.
PT N-terminally truncated monocyte chemoattractant protein-1 (MCP-1) -
PT lacks MCP-1 activity and inhibits receptor binding, useful as
PT anti-inflammatory agent
PS Claim 7; Page 5; 27pp; English.
CC The present sequence represents an analogue, MCP-1 (9-76), of monocyte
CC chemoattractant protein-1 (MCP-1). The analogue, which lacks the
CC N-terminal amino acids 1-8 of MCP-1, acts as an antagonist of MCP-1
CC as it lacks MCP-1 biological activity and inhibits binding to a MCP-1
CC receptor. The analogue is useful as an anti-inflammatory agent to block
CC the effects of MCP-1 which is an inflammatory mediator causing migration
CC of monocytes and other cells e.g. basophils and lymphocytes into
CC inflammation sites. MCP-1 has been implicated in allergic and chronic
CC inflammatory diseases e.g. arthritis, arteriosclerosis and several lung
CC diseases. The analogue competes more effectively with MCP-1 for binding
CC MCP-1 receptors than prior art mutant versions of MCP-1 e.g. preferably
CC providing 50% inhibition of binding at a 25:1 ratio or less, compared
CC with 75:1 for prior art mutant 7ND.
SQ Sequence 68 AA;

Query Match 94.7%; Score 90; DB 24; Length 68;
Best Local Similarity 91.7%; Pred. No. 5.67e-02;
Matches 11; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Db 42 eicadpkqkwvq 53

QY 1 EICADPTQKWVQ 12
||||| |||||

RESULT 7
ID R87678 standard; protein: 69 AA.
AC R87678;
DT 21-FEB-1996 (first entry)
DE des(2-8) MCP-1.
KW monocyte chemoattractant protein; MCP-1; mutant; restenosis;
KW angioplasty.
OS Homo sapiens.
FH Key 2...3 Location/Qualifiers
FT modified_site 2...3
FT /note= "amino acids 2-8 of the native protein have
FT been deleted between these residues"
FT disulfide_bond 4...29
FT disulfide_bond 5...45
PN WO9513295-A1.
PD 18-MAY-1995.
PF 07-NOV-1994; U12874.
PR 12-NOV-1993; US-152301.
PA (DAND) DANA FARRER CANCER INST INC.
PI Rollins B, Zhang YJ;
DR WPI; 95-215051/28.
PT Human monocyte chemo-attractant protein-1 (MCP-1) derivs. - are
PT capable of inhibiting the monocyte chemo-attractant activity of
PT endogenous MCP-1 and can be used to treat restenosis
PS Claim 4; Page 11; 22pp; English.
CC Monocyte chemoattractant protein-1 (MCP-1) derivatives are mutated such
CC that they inhibit the monocyte chemoattractant activity of endogenous
CC MCP-1, provided that the derivative has not been modified by the
CC substitution of 28-Tyr by Leu and/or 30-Arg by Val. Preferred mutations
CC are: (1) substitution of 28-Tyr by aspartate; (2) substitution of 24 Arg
CC by Phe; (3) substitution of 3-Asp by Ala; and/or (4) deletion of amino
CC acids 2-8. The present sequence is a specifically claimed human MCP-1
CC derivative based on the parent protein disclosed in Rollins, Molecular
CC and Cellular Biology, Vol. 9, No. 11, pp. 4687-4695, Nov. 1989.
CC The peptides can be used to prevent restenosis, e.g. in patients
CC undergoing coronary artery angioplasty.
SQ Sequence 69 AA;

Query Match 94.7%; Score 90; DB 14; Length 69;
Best Local Similarity 91.7%; Pred. No. 5.67e-02;
Matches 11; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Db 43 eicadpkqkwvq 54
||||| |||||
QY 1 EICADPTQKWVQ 12

RESULT 8
ID W13596 standard; peptide: 69 AA.
AC W13596;
DT 07-NOV-1997 (first entry)
DE Monocyte chemoattractant protein analogue MCP-1 (8-76).
KW Truncated monocyte chemoattractant protein-1; inhibitor;
KW receptor binding; anti inflammatory; basophil; lymphocyte; allergy;
KW chronic inflammatory disease; arthritis; arteriosclerosis;
KW lung disease.
OS Homo sapiens.
PN CA2152141-A.
PD 20-DEC-1996.
PF 19-JUN-1995; 152141.
PR 19-JUN-1995; CA-152141.
PA (LEWI/) LEWIS I.
PI Gong J, Lewis I;
DR WPI; 97-165844/16.
PT N-terminally truncated monocyte chemoattractant protein-1 (MCP-1) -
PT lacks MCP-1 activity and inhibits receptor binding, useful as
PT anti-inflammatory agent
PS Claim 5; Page 5; 27pp; English.
CC The present sequence represents an analogue, MCP-1 (8-76), of monocyte

CC chemoattractant protein-1 (MCP-1). The analogue, which lacks the
 CC N-terminal amino acids 1-7 of MCP-1, acts as an antagonist of MCP-1
 CC as it lacks MCP-1 biological activity and inhibits binding to a MCP-1
 CC receptor. The analogue is useful as an anti-inflammatory agent to block
 CC the effects of MCP-1 which is an inflammatory mediator causing migration
 CC of monocytes and other cells e.g. basophils and lymphocytes into
 CC inflammatory sites. MCP-1 has been implicated in allergic and chronic
 CC diseases. The analogue competes more effectively with MCP-1 for binding
 CC MCP-1 receptors than prior art mutant versions of MCP-1 e.g. preferably
 CC providing 50% inhibition of binding at a 25:1 ratio or less, compared
 CC with 75:1 for prior art mutant 7ND.
 SQ Sequence 69 AA;

Query Match 94.7%; Score 90; DB 24; Length 69;
 Best Local Similarity 91.7%; Pred. No. 5.67e-02;

Matches 11; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
 Db 43 eicadpkqkvq 54
 QY 1 EICADPTQKWQ 12
 ||||| |||||

RESULT 9

ID R87677 standard; protein; 76 AA.
 AC R87677;
 DT 21-FEB-1996 (first entry)
 DE (3-Ala) MCP-1.
 KW monocyte chemoattractant protein; MCP-1; mutant; restenosis;
 KW angioplasty.
 OS Homo sapiens.
 FH Key Location/Qualifiers
 FT modified_site 3
 FT disulfide_bond 11..36 /note= "Asp in the native sequence is replaced by Ala"
 FT disulfide_bond 12..52
 PN W09513295-Al.
 PD 18-MAY-1995.
 PE 07-NOV-1994; U12874.
 PR 12-NOV-1993; US-152301.
 PA (DAND) DANA FARBEN CANCER INST INC.
 PI Rollins B, Zhang YJ;
 DR WPI; 95-215051/28.
 PT Human monocyte chemo-attractant protein-1 (MCP-1) derivatives are mutated such
 PT capable of inhibiting the monocyte chemo-attractant activity of endogenous
 PT endogenous MCP-1 and can be used to treat restenosis
 PS Claim 6; Page 11; 22pp; English.
 CC Monocyte chemoattractant protein-1 (MCP-1) derivatives are mutated such
 CC that they inhibit the monocyte chemoattractant activity of endogenous
 CC MCP-1, provided that the derivative has not been modified by the
 CC substitution of 28-Tyr by Leu and/or 30-Arg by Val. Preferred mutations
 CC are: (1) substitution of 28 Tyr by aspartate; (2) substitution of 24 Arg
 CC by Phe; (3) substitution of 3-Asp by Ala; and/or (4) deletion of amino
 CC acids 2-8. The present sequence is a specifically claimed human MCP-1
 CC derivative based on the parent protein disclosed in Rollins, Molecular
 CC and Cellular Biology, Vol. 9, No. 11, pp. 4687-4695, Nov. 1989.
 CC The peptides can be used to prevent restenosis, e.g. in patients
 CC undergoing coronary artery angioplasty.
 SQ Sequence 76 AA;

Query Match 94.7%; Score 90; DB 14; Length 76;
 Best Local Similarity 91.7%; Pred. No. 5.67e-02;

Matches 11; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
 Db 50 eicadpkqkvq 61
 QY 1 EICADPTQKWQ 12
 ||||| |||||

RESULT 10

ID R87680 standard; protein; 76 AA.
 AC R87680;
 DT 05-MAR-1996 (first entry)

DE Monocyte chemotactic activating factor for use as wound remedy.
 KW monocyte chemotactic activating factor; MCAF; wound remedy.
 OS Homo sapiens.
 PN W09507710-Al.
 PD 23-MAR-1995.
 PF 13-SEP-1994; J01512.
 PR 13-SEP-1993; JP-227385.
 PA (TORA) TORAY IND INC.
 PI Matsushima K, Naruto M;
 DR WPI; 95-131181/17.

PT Wound treatment using monocyte chemotactic factor - has potent
 PT therapeutic effect on skin wounds and ulcers
 PS Disclosure; Page 12; 22pp; Japanese.

CC The invention relates to a new remedy for curing wounds which, instead
 CC of comprising a growth factor, comprises a monocyte chemotactic
 CC activating factor (MCAF) or its variants or derivatives. The factor has
 CC potent effect on skin wounds and ulcers. The present sequence is human
 CC MCAF, the activity of which is exemplified as the new remedy.
 SQ Sequence 76 AA;

Query Match 94.7%; Score 90; DB 14; Length 76;
 Best Local Similarity 91.7%; Pred. No. 5.67e-02;
 Matches 11; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Db 50 eicadpkqkvq 61
 QY 1 EICADPTQKWQ 12
 ||||| |||||

RESULT 11

ID W09374 standard; Protein; 76 AA.
 AC W09374;
 DT 21-MAR-1997 (first entry)
 DE Monocyte chemotactic protein 1.
 KW Human; monocyte chemoattractant protein; antisense; inhibition;
 KW mononuclear cell; lymphocyte; macrophage; smooth muscle cell;
 KW vascular restenosis.
 OS Homo sapiens.
 FH Key Location/Qualifiers
 FT misc_difference 1 /note= "encoded by codon CAG"
 FT misc_difference 51 /note= "encoded by codon AUG"
 FT misc_difference 65 /note= "encoded by codon CAC"
 PN US5571713-A.
 PD 05-NOV-1996.
 PE 22-OCT-1992; 965678.
 PR 22-OCT-1992; US-965678.
 PR 27-MAY-1994; US-250958.
 PA (UNMI) UNIV MICHIGAN.
 PI Kunkel SL, Lyle LR, Strieter RM;
 DR WPI; 96-505405/50.
 DR N-PSDB; T48092.
 PT Anti-sense Monocyte Chemotactic Protein-1 oligonucleotide(s) -
 PT useful for therapy or diagnosis of restenosis, etc.
 PS Disclosure; Column 13-14; 16pp; English.

CC This is the amino acid sequence of the human monocyte chemoattractant
 CC protein (MCP)-1, a member of the C-C chemokine family. MCP-1 is a potent
 CC stimulator of monocyte chemotaxis and is produced by injured vascular
 CC smooth cells thus attracting monocytes and macrophages which infiltrate
 CC the injured area and release growth factor. This causes proliferation of
 CC the vascular smooth cells resulting in restenosis. The gene sequence can
 CC be used to generate antisense sequences e.g. T48093-7, which can be used
 CC to inhibit in vitro MCP-1 prodn. by mononuclear cells e.g. lymphocytes or
 CC macrophages, or smooth muscle cells, esp. in order to prevent vascular
 CC restenosis.
 SQ Sequence 76 AA;

Query Match 94.7%; Score 90; DB 20; Length 76;
 Best Local Similarity 91.7%; Pred. No. 5.67e-02;

Matches 11; Conservative 0; Mismatches 1; Indels 0; Gaps 0;


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Db 50 eicadpdkqkwvq 61
   ||||| |||||
QY 1 EICADPTQKWVQ 12

RESULT 12
ID Wll131 standard; protein; 76 AA.
AC Wll131;
DE 10-JUN-1997 (first entry)
KW MCP-1; mature monocyte chemoattractant protein-1; cytokine; interleukin-8;
KW IL-8; neutrophil activating peptide; labelling; imaging; targeting;
KW radionuclide; infection; inflammation; neoplasm; atheromatous lesion;
KW restenosis.
OS Homo sapiens.
FH Key Location/Qualifiers
FT misc_difference 1 /note= "X= any amino acid"
PN US5605671-A.
PD 25-FEB-1997.
PF 05-OCT-1992; 956862.
PR 05-OCT-1992; US-956863.
PR 05-OCT-1992; US-956862.
PR 29-APR-1994; US-235659.
PA (MLCW ) MALLINCKRODT MEDICAL INC.
PA (UNMI ) UNIV MICHIGAN.
PI Kunkel SL, Lyle LR, Strieter RM;
PI WPI; 97-153541/14.
DR Radio:labelling neutrophil-activating peptide(s) - for imaging
PT Targetted delivery of radioactive agent
PS Example 10: Column 19-20; 15pp; English.
CC Wll131 represents mature human monocyte chemoattractant protein-1
CC (MCP-1). MCP-1 was radionuclide labelled and used in a method for
CC imaging a target site in vivo in an animal. Labelled MCP-1 was allowed
CC to accumulate at a target site (having MCP-1 receptors) in the animal
CC and detected so as to image the target site. Any Cys-Cys or Cys-Xaa-Cys
CC chemokine carrying either iodine-123 or iodine-131 can be used in the
CC method. Especially preferred is neutrophil activating peptide-2 (NAP-2)
CC which recognises interleukin-8 receptors and is labelled with
CC technetium-99m, indium-111, copper-62, rhenium-186 or rhenium-188.
CC The method can be used for imaging a site of infection, inflammation,
CC neoplasm, atheromatous lesion or restenosis.
SQ Sequence 76 AA;

Query Match 94.7%; Score 90; DB 21; Length 76;
Best Local Similarity 91.7%; Pred. No. 5.67e-02;
Matches 11; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Db 50 eicadpdkqkwvq 61
   ||||| |||||
QY 1 EICADPTQKWVQ 12

RESULT 13
ID W40175 standard; Protein; 76 AA.
AC W40175;
DE 01-JUL-1998 (first entry)
DE Macrophage chemoattractant peptide designated GDCF-2.
KW Monocyte chemoattractant peptide; MCP; MCP-1; treatment; neoplasm;
KW infection; human; monocyte receptor; chemotactic response; inflammation;
KW monocyte infiltration.
OS Homo sapiens.
FH Key Location/Qualifiers
FT Modified_site 1 /note= "pyroglutamic acid"
PN US5714578-A.
PD 03-FEB-1998.
PF 06-JUN-1995; 466280.
PR 30-MAR-1989; US-330446.
PR 31-JAN-1989; US-304234.
PA (USSH ) US DEPT HEALTH & HUMAN SERVICES.
PI Appella E, Leonard EJ, Robinson EA, Yoshimura T;
PI WPI; 98-129909/12.

Peptide with chemotactic activity for monocytes - from human
monocytes or glioma cells, useful for treating infections and
neoplasms
Claim 1; Column 27; 21pp; English.
The present sequence represents a monocyte chemoattractant peptide (MCP)
designated GDCF-2. MCPs can be isolated from human glioma cell line
U-105MG (e.g. present sequence) and peripheral blood mononuclear
leukocytes. MCPs are used for the treatment of neoplasms and infections
in humans. Short peptides derived from MCPs can be screened to identify
those that can bind to the monocyte receptor without stimulating a
chemotactic response. These are potentially useful for treating
CC inflammation associated with monocyte infiltration.
SQ Sequence 76 AA;

Query Match 94.7%; Score 90; DB 30; Length 76;
Best Local Similarity 91.7%; Pred. No. 5.67e-02;
Matches 11; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Db 50 eicadpdkqkwvq 61
   ||||| |||||
QY 1 EICADPTQKWVQ 12

RESULT 14
ID P90292 standard; peptide; 76 AA.
AC P90292;
DE 17-JAN-1990 (first entry)
DE Peptide from human glioma cell line U-105MG.
KW Glioma; leucocyte; chemotaxis; neoplasms.
OS Human.
FH Key Location/Qualifiers
FT Modified_site 1 /label= OTHER
FT /note= "pyroglutamic acid"
PN US7304234-A.
PD 30-JUL-1989.
PD 31-JAN-1989; 030423.
PF 31-JAN-1989; US-304234.
PR 31-JAN-1989; US-304234.
PA (USSH) US Dept. of Health and Human.
PI Yoshimura T; Robinson E; Appella E; Leonard E.
PI WPI; 89-263501/36.
DR New peptide with specific chemotactic activity for monocytes - isolated
DR from glioma or leucocyte cells, useful for treating infections and
PT neoplasms.
PS Disclosure; page 3; 46pp; English.
CC Peptide is derived from glioma cell line U-105MG (ATCC CRL9932) or from
CC leukocytes and has mol. wt. 8400. Used to treat infections and neoplasms.
SQ Sequence 76 AA;

Query Match 94.7%; Score 90; DB 1; Length 76;
Best Local Similarity 91.7%; Pred. No. 5.67e-02;
Matches 11; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Db 50 eicadpdkqkwvq 61
   ||||| |||||
QY 1 EICADPTQKWVQ 12

RESULT 15
ID R53398 standard; Protein; 76 AA.
AC R53398;
DE 15-DEC-1994 (first entry)
DE Sense MCP-1.
KW Antisense; RNA; DNA; monocyte chemotactic protein-1; MCP-1;
KW radionuclide; vascular restenosis; alpha; beta; emitting isotope;
KW diagnosis; monocytes; vascular injury.
OS Mammalian.
FH Key Location/Qualifiers
FT misc_difference 1 /note= "Unspecified amino acid"
PN WO9409128-A.
PD 28-APR-1994.
PD 20-OCT-1993; U10074.

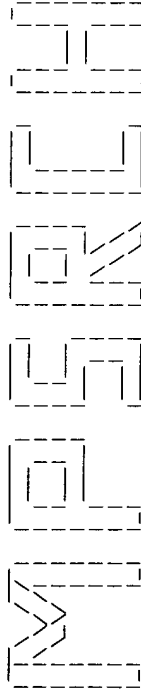
```

PR 22-OCT-1992; US-965678.
 PA (MLCW) MALLINCKRODT MEDICAL INC.
 PI Lyle LR:
 DR WPI: 94-151314/18.
 PT Anti-sense monocyte chemotactic protein-1 oligonucleotide(s) and
 peptide(s) - is used for inhibiting, treating or imaging areas of
 PT vascular restenosis or potential restenosis
 PS Disclosure; Page 5: 42pp; English.
 CC The sequences given in R53398-99 represent sense and antisense
 CC monocyte chemotactic protein-1 (MCP-1) respectively. These
 CC oligonucleotides may be labelled with a radionuclide and use
 CC therapeutically for the treatment of vascular restenosis.
 CC Radiolabelled antisense MCP-1 compounds may be constructed using high
 CC energy alpha or beta emitting isotopes rather than the gamma
 CC emitters customarily used for diagnostic purposes. Antisense MCP-1
 CC compounds inactivate MCP-1 or inhibit production of MCP-1 so that
 CC monocytes are not attracted to the area of vascular injury and
 CC proliferation of vascular cells is inhibited.
 SO Sequence 76 AA;

Query Match 94.7%; Score 90; DB 10; Length 76;
 Best Local Similarity 91.7%; Pred. No. 5.67e-02;
 Matches 11; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Db 50 eicadpkqkvvq 61
 ||||| |||||
 QY 1 EICADPTQKVVQ 12

Search completed: Fri Feb 4 17:44:18 2000
 Job time : 17 secs.



(TM)

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MPsrch_pp protein - protein database search, using Smith-Waterman algorithm

Run on: Fri Feb 4 17:57:06 2000; MasPar time 2.53 Seconds
 Tabular output not generated. 133.995 Million cell updates/sec

Title: >US-09-150-813-68
 Description: (1-12) from US09150813.pep
 Perfect Score: 97
 Sequence: 1 DICADPKKKWQ 12

Scoring table: PAM 150
 Gap 15

Searched: 77977 seqs, 28268293 residues

Post-processing: Minimum Match 0%
 Listing first 45 summaries

Database: swiss-prot37
 1:swissprot

Statistics: Mean 25.627; Variance 32.369; scale 0.792

Pred. No. is the number of results predicted by chance to have a
 score greater than or equal to the score of the result being printed,
 and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match | Length | ID | Description | Pred. No. |
|------------|-------|-------------|--------|----|-----------------------------------|-----------|
| 1 | 97 | 100.0 | 97 | 1 | EOTA_HUMAN EOTAXIN PRECURSOR (EOS | 3.72e-10 |
| 2 | 96 | 99.0 | 97 | 1 | EOTA_MOUSE EOTAXIN PRECURSOR (EOS | 6.75e-10 |
| 3 | 96 | 99.0 | 97 | 1 | EOTA_RAT EOTAXIN PRECURSOR (EOS | 6.75e-10 |
| 4 | 91 | 93.8 | 96 | 1 | EOTA_CAVPO EOTAXIN PRECURSOR (EOS | 1.28e-08 |
| 5 | 89 | 91.8 | 99 | 1 | MCPI_HUMAN MONOCYTE CHEMOTACTIC P | 4.10e-08 |
| 6 | 89 | 91.8 | 101 | 1 | MCPI_CANFA MONOCYTE CHEMOTACTIC P | 4.10e-08 |
| 7 | 88 | 90.7 | 98 | 1 | MCPI_HUMAN MONOCYTE CHEMOTACTIC P | 7.31e-08 |
| 8 | 88 | 90.7 | 99 | 1 | MCPI_PIG MONOCYTE CHEMOTACTIC P | 7.31e-08 |
| 9 | 88 | 90.7 | 99 | 1 | MCPI_BOVIN MONOCYTE CHEMOTACTIC P | 7.31e-08 |
| 10 | 86 | 88.7 | 89 | 1 | MCPI_HUMAN MONOCYTE CHEMOTACTIC P | 2.31e-07 |
| 11 | 86 | 88.7 | 148 | 1 | MCPI_MOUSE MONOCYTE CHEMOTACTIC P | 2.31e-07 |
| 12 | 84 | 86.6 | 99 | 1 | MCPI_BOVIN MONOCYTE CHEMOTACTIC P | 7.20e-07 |
| 13 | 84 | 86.6 | 125 | 1 | MCPI_RABIT MONOCYTE CHEMOTACTIC P | 7.20e-07 |
| 14 | 82 | 84.5 | 99 | 1 | MCPI_HUMAN MONOCYTE CHEMOTACTIC P | 2.22e-06 |
| 15 | 82 | 84.5 | 148 | 1 | MCPI_RAT MONOCYTE CHEMOTACTIC P | 2.22e-06 |
| 16 | 81 | 83.5 | 74 | 1 | MCPI_BOVIN MONOCYTE CHEMOTACTIC P | 3.89e-06 |
| 17 | 81 | 83.5 | 104 | 1 | MCPI_MOUSE MONOCYTE CHEMOTACTIC P | 3.89e-06 |
| 18 | 80 | 82.5 | 99 | 1 | MCPI_PIG MONOCYTE CHEMOTACTIC P | 6.80e-06 |
| 19 | 80 | 82.5 | 101 | 1 | IL8_CAVPO INTERLEUKIN-8 PRECURSOR | 6.80e-06 |
| 20 | 80 | 82.5 | 120 | 1 | MCPI_CAVPO MONOCYTE CHEMOTACTIC P | 6.80e-06 |
| 21 | 79 | 81.4 | 91 | 1 | SISD_MOUSE T-CELL SPECIFIC RANTES | 1.18e-05 |
| 22 | 79 | 81.4 | 92 | 1 | SISD_RAT T-CELL SPECIFIC RANTES | 1.18e-05 |
| 23 | 79 | 81.4 | 101 | 1 | IL8_CANFA INTERLEUKIN-8 PRECURSOR | 1.18e-05 |

ALIGNMENTS

| RESULT | 1 | 24 | 79 | 81.4 | 101 | 1 | IL8_SHEEP | INTERLEUKIN-8 PRECURSOR | 1.18e-05 |
|--------|--|-----------|------|--------|-----|---|------------|-------------------------|----------|
| ID | EOTA_HUMAN | STANDARD: | PRT; | 97 AA. | | | IL8_PIG | INTERLEUKIN-8 PRECURSOR | 1.18e-05 |
| AC | P51671; P50877; Q92490; Q92491; | | | | | | MILA_RAT | MACROPHAGE INFLAMMATOR | 3.55e-05 |
| DT | 01-OCT-1996 (REL. 34, CREATED) | | | | | | MCP2_HUMAN | MONOCYTE CHEMOTACTIC P | 3.55e-05 |
| DT | 01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE) | | | | | | IL8_RABIT | INTERLEUKIN-8 PRECURSOR | 6.13e-05 |
| DT | 15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE) | | | | | | IL8_BOVIN | INTERLEUKIN-8 PRECURSOR | 6.13e-05 |
| DE | EOTAXIN PRECURSOR (EOSINOPHIL CHEMOTACTIC PROTEIN). | | | | | | SISD_PIG | T-CELL SPECIFIC RANTES | 3.09e-04 |
| GN | SCY11. | | | | | | SISD_HUMAN | T-CELL SPECIFIC RANTES | 3.09e-04 |
| OS | HOMO SAPIENS (HUMAN) | | | | | | SDF1_MOUSE | STROMAL CELL-DERIVED F | 8.92e-04 |
| OC | EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; | | | | | | SDF1_HUMAN | STROMAL CELL-DERIVED F | 8.92e-04 |
| OC | PRIMATES; CATARRHINI; HOMINIDAE; HOMO. | | | | | | SDF1_FELCA | STROMAL CELL-DERIVED F | 8.92e-04 |
| RP | SEQUENCE FROM N.A. | | | | | | MILA_MOUSE | MACROPHAGE INFLAMMATOR | 1.51e-03 |
| RN | [1] | | | | | | IL8_HUMAN | INTERLEUKIN-8 PRECURSOR | 1.51e-03 |
| RX | MEDLINE; 96181758. | | | | | | MILB_CHICK | MACROPHAGE INFLAMMATOR | 2.54e-03 |
| RA | GARCIA-ZEPEDA E.A., ROTHENBERG M.E., OWNBEY T.R., LEDER P., | | | | | | CCC1_HUMAN | CHEMOKINE CC-1 PRECURS | 4.26e-03 |
| RA | LUSTER A.D.; | | | | | | CCC3_HUMAN | CHEMOKINE CC-3 PRECURS | 4.26e-03 |
| RT | "Human eotaxin is a specific chemoattractant for eosinophil cells and | | | | | | MCP3_MOUSE | MONOCYTE CHEMOTACTIC P | 7.12e-03 |
| RT | provides a new mechanism to explain tissue eosinophilia."; | | | | | | LTN_RAT | LYMPHOTACTIN PRECURSOR | 7.12e-03 |
| RL | NAT. MED. 2:449-456(1996). | | | | | | MILB_HUMAN | MACROPHAGE INFLAMMATOR | 1.19e-02 |
| RN | [2] | | | | | | MIL0_HUMAN | TONSILLAR LYMPHOCYTE L | 1.19e-02 |
| RP | SEQUENCE FROM N.A. | | | | | | LTN_MOUSE | LYMPHOTACTIN PRECURSOR | 1.19e-02 |
| RX | MEDLINE; 96189937. | | | | | | | | |
| RA | PONATH P.D., QIN S., RINGLER D.J., CLARK-LEWIS I., WANG J., KASSAM N., | | | | | | | | |
| RA | SMITH H., SHI X., GONZALO J.A., NEWMAN W., GUTIERREZ-RAMOS J.C., | | | | | | | | |
| RA | MACRAY C.R.; | | | | | | | | |
| RT | "Cloning of the human eosinophil chemoattractant, eotaxin. | | | | | | | | |
| RT | Expression, receptor binding, and functional properties suggest a | | | | | | | | |
| RT | mechanism for the selective recruitment of eosinophils."; | | | | | | | | |
| RL | J. CLIN. INVEST. 97:604-612(1996). | | | | | | | | |
| RN | [3] | | | | | | | | |
| RP | SEQUENCE FROM N.A. | | | | | | | | |
| RC | TISSUE-SMALL INTESTINE; | | | | | | | | |
| RX | MEDLINE; 96205964. | | | | | | | | |
| RA | KITaura M., NAKAJIMA T., IMAI T., HARADA S., COMBADIÈRE C., | | | | | | | | |
| RA | TIFFANY H.L., MURPHY P.M., YOSHIE O.; | | | | | | | | |
| RT | "Molecular cloning of human eotaxin, an eosinophil-selective CC | | | | | | | | |
| RT | chemokine, and identification of a specific eosinophil eotaxin | | | | | | | | |
| RT | receptor, CC chemokine receptor 3."; | | | | | | | | |
| RL | J. BIOL. CHEM. 271:7725-7730(1996). | | | | | | | | |
| RN | [4] | | | | | | | | |
| RP | SEQUENCE FROM N.A., SEQUENCE OF 60-65 AND 75-88, AND VARIANTS. | | | | | | | | |
| RC | TISSUE=FORESKIN; | | | | | | | | |
| RP | MEDLINE; 96374440. | | | | | | | | |
| RX | BARTELS J., SCHLUTER C., RICHTER E., NOSO N., KULKE R., | | | | | | | | |
| RA | CHRISTOPHERS E., SCHROEDER J.M.; | | | | | | | | |
| RT | "Human dermal fibroblasts express eotaxin: molecular cloning, mRNA | | | | | | | | |
| RT | expression, and identification of eotaxin sequence variants."; | | | | | | | | |

RL BIOCHEM. BIOPHYS. RES. COMMUN. 225:1045-1051(1996).
 RN [5]
 RP SEQUENCE FROM N.A.
 RC TISSUE=PLACENTA;
 RX MEDLINE; 97312708.
 RA GARCIA-ZEPEDA E.A., ROTHENBERG M.E., WEREMOWICZ S., SARAFI M.N.,
 RA MORTON C.C., LUSTER A.D.;
 RT "Genomic organization, complete sequence, and chromosomal location of
 RT the gene for human eotaxin (SCY11), an eosinophil-specific CC
 chemokine.";
 RL GENOMICS 41:471-476(1997).
 RN [6]
 RP SEQUENCE FROM N.A.
 RC TISSUE=LUNG;
 RX MEDLINE; 97445071.
 RA HEIN H., SCHLUETER C., KULKE R., CHRISTOPHERS E., SCHROEDER J.M.,
 RA BARTELS J.;
 RT "Genomic organization, sequence, and transcriptional regulation of
 RT the human eotaxin gene.";
 RL BIOCHEM. BIOPHYS. RES. COMMUN. 237:537-542(1997).
 RN [7]
 RP STRUCTURE BY NMR.
 RX MEDLINE; 98380469.
 RA CRUMP M.P., RAJARATHNAM K., KIM K.S., CLARK-LEWIS I., SYKES B.D.;
 RT "Solution structure of eotaxin, a chemokine that selectively recruits
 RT eosinophils in allergic inflammation.";
 RL BIOCHEMISTRY 37:11670-11678(1998).
 CC -!- FUNCTION: IN RESPONSE TO THE PRESENCE OF ALLERGENS, THIS PROTEIN
 CC DIRECTLY PROMOTES THE ACCUMULATION OF EOSINOPHILS, A PROMINENT
 CC FEATURE OF ALLERGIC INFLAMMATORY REACTIONS.
 CC -!- SUBCELLULAR LOCATION: EXTRACELLULAR.
 CC -!- PM: O-GLYCOSYLATED (PROBABLE).
 CC -!- INDUCTION: BY TNF-ALPHA, IL-1-ALPHA AND INTERFERON GAMMA.
 CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
 CC C-C) (CHEMOKINE CC).
 CC -----
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 CC -----
 DR EMBL; U46573; GI280141; -;
 DR EMBL; U34780; GI185440; -;
 DR EMBL; D49372; G1552241; -;
 DR EMBL; D69291; E221070; -;
 DR EMBL; Z69291; E221070; -;
 DR EMBL; Z75568; E251275; -;
 DR EMBL; Z75569; E251258; -;
 DR EMBL; U46572; G2088509; -;
 DR EMBL; Z92709; E329504; -;
 DR MIM; 601156; -;
 DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
 DR PFAM; PF00048; i18; 1.
 DR PDB; 2EOT; 11-NOV-98.
 DR EOSINOPHIL; CYTOKINE; CHEMOTAXIS; GLYCOPROTEIN; SIGNAL;
 KW INFLAMMATORY RESPONSE; POLYMORPHISM; 3D-STRUCTURE.
 FT SIGNAL 1 23
 FT CHAIN 24 97
 FT DISULFID 32 57
 FT DISULFID 33 73
 FT VARIANT 7 7
 FT VARIANT 23 23
 FT VARIANT 51 51
 FT VARIANT 79 79
 FT SEQUENCE 97 AA; 10732 MW; 6C0F3D98 CRC32;
 SQ
 Query Match 100.0%; Score 97; DB 1; Length 97;
 Best Local Similarity 100.0%; Pred. No. 3.72e-10;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Db 71 DICADPKKKVQ 82

QY 1 DICADPKKKVQ 12
 |||||
 RESULT 2
 ID EOTA_MOUSE STANDARD; PRT; 97 AA.
 AC P48298; 1996 (REL. 33, CREATED)
 DT 01-FEB-1996 (REL. 33, LAST SEQUENCE UPDATE)
 DT 01-FEB-1996 (REL. 33, LAST SEQUENCE UPDATE)
 DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
 DE EOTAXIN PRECURSOR (EOSINOPHIL CHEMOTACTIC PROTEIN).
 GN SCY11.
 OS MUS MUSCULUS (MOUSE).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; MUS.
 RN [1]
 RN SEQUENCE FROM N.A.
 RC TISSUE=LUNG;
 RX MEDLINE; 96004658.
 RA ROTHENBERG M.E., LUSTER A.D., LEDER P.;
 RT "Murine eotaxin: an eosinophil chemoattractant inducible in
 RT endothelial cells and in interleukin 4-induced tumor suppression.";
 RL PROC. NATL. ACAD. SCI. U.S.A. 92:8960-8964(1995).
 RN [2]
 RN SEQUENCE FROM N.A.
 RC STRAIN=C57BL/6J; TISSUE=LUNG;
 RX MEDLINE; 96158746.
 RA GONZALO J.-A., JIA G.-Q., AGUIRRE V., FRIEND D., COYLE A.J.,
 RA JENKINS N.A., LIN G.-S., KATZ H., LICHTMAN A., COPELAND N.G., KOPF M.,
 RA GUTIERREZ-RAMOS J.-C.;
 RT "Mouse eotaxin expression parallels eosinophil accumulation during
 RT lung allergic inflammation but it is not restricted to a Th2-type
 RT response.";
 RL IMMUNITY 4:1-14(1996).
 CC -!- FUNCTION: IN RESPONSE TO THE PRESENCE OF ALLERGENS, THIS PROTEIN
 CC DIRECTLY PROMOTES THE ACCUMULATION OF EOSINOPHILS (A PROMINENT
 CC FEATURE OF ALLERGIC INFLAMMATORY REACTIONS), BUT NOT
 CC LYMPHOCYTES, MACROPHAGES OR NEUTROPHILS.
 CC -!- SUBCELLULAR LOCATION: EXTRACELLULAR.
 CC -!- TISSUE SPECIFICITY: EXPRESSED CONSTITUTIVELY IN THE THYMUS.
 CC EXPRESSION INDUCIBLE IN THE LUNG (TYPE I ALVEOLAR EPITHELIAL
 CC CELLS), INTESTINE, HEART, SPLEEN, KIDNEY.
 CC -!- INDUCTION: BY INTERFERON-GAMMA AND LIPOPOLYSACCHARIDE (LPS).
 CC -!- PM: O-GLYCOSYLATED (PROBABLE).
 CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
 CC C-C) (CHEMOKINE CC).
 CC -----
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 CC -----
 DR EMBL; U26426; G95911; -;
 DR EMBL; U40672; G1113937; -;
 DR MGD; MGI:103576; SCY11.
 DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
 DR PFAM; PF00048; i18; 1.
 DR HSSP; P80098; 1NCV.
 DR EOSINOPHIL; CYTOKINE; CHEMOTAXIS; GLYCOPROTEIN; SIGNAL;
 KW INFLAMMATORY RESPONSE.
 FT SIGNAL 1 23
 FT CHAIN 24 97
 FT DISULFID 32 57
 FT DISULFID 33 73
 FT SEQUENCE 97 AA; 10893 MW; F85A968C CRC32;
 SQ
 Query Match 99.0%; Score 96; DB 1; Length 97;
 Best Local Similarity 91.7%; Pred. No. 6.75e-10;
 Matches 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Db 71 EICADPKKKWQ 82
:|||||
QY 1 DICADPKKKWQ 12

RESULT 3
ID EOTA_RAT STANDARD; PRT; 97 AA.
AC P97545; 008780;
DT 15-JUL-1998 (REL. 36, CREATED)
DT 15-JUL-1998 (REL. 36, LAST SEQUENCE UPDATE)
DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
DE EOTAXIN PRECURSOR (EOSINOPHIL CHEMOTACTIC PROTEIN).
OS RATTUS NORVEGICUS (RAT).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; RATTUS.
RN [1]
RP SEQUENCE FROM N.A.
RA WILLIAMS C.M., NEWTON D.J., WILSON S.A., COLEMAN J.C.,
RA FLANAGAN B.F.;
RL SUBMITTED (DEC-1996) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [2]
RP SEQUENCE FROM N.A.
RC TISSUE=LUNG;
RA ISHII Y.;
RL SUBMITTED (MAY-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
CC -!- FUNCTION: IN RESPONSE TO THE PRESENCE OF ALLERGENS, THIS PROTEIN
CC DIRECTLY PROMOTES THE ACCUMULATION OF EOSINOPHILS, A PROMINENT
CC FEATURE OF ALLERGIC INFLAMMATORY REACTIONS (BY SIMILARITY).
CC -!- SUBCELLULAR LOCATION: EXTRACELLULAR.
CC -!- PTM: O-GLYCOSYLATED (PROBABLE).
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
CC C-C) (CHEMOKINE CC).
CC
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CC or send an email to license@isb-sib.ch).
CC
CC EMBL: Y08358; E274141; -
CC EMBL: U96637; G2098785; -
CC PROSITE: PS00472; SMALL_CYTOKINES_CC; 1.
CC PFAM: PF00048; i18; 1.
CC HSSP: P80098; INCY.
CC EOSINOPHIL; CYTOKINE; CHEMOTAXIS; GLYCOPROTEIN; SIGNAL;
CC INFLAMMATORY RESPONSE.
FT SIGNAL 1 23
FT CHAIN 24 97
FT DISULFID 32 57
FT DISULFID 33 73
FT CARBOHYD 94 94
FT CONFLICT 3 3
FT CONFLICT L -> S (IN REF. 2).
SQ SEQUENCE 97 AA; 10851 MW; 05B4ED45 CRC32;

Query Match 99.0%; Score 96; DB 1; Length 97;
Best Local Similarity 91.7%; Pred. No. 6.75e-10;
Matches 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Db 71 EICADPKKKWQ 82
:|||||
QY 1 DICADPKKKWQ 12

RESULT 4
ID EOTA_CAVPO STANDARD; PRT; 96 AA.
AC P80325;
DT 01-JUN-1994 (REL. 29, CREATED)
DT 01-OCT-1995 (REL. 34, LAST SEQUENCE UPDATE)
DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
DE EOTAXIN PRECURSOR (EOSINOPHIL CHEMOTACTIC PROTEIN).
GN SCY11.

OS CAVIA PORCELLUS (GUINEA PIG).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC RODENTIA; HYSTRICOGNATHI; CAVIIDAE; CAVIA.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=LUNG;
RX MEDLINE; 95173589.
RA ROTHENBERG M.E., LUSTER A.D., LILLY C.M., DRAZEN J.M., LEDER P.;
RT "Constitutive and allergen-induced expression of eotaxin mRNA in the
RT guinea pig lung."
RL J. EXP. MED. 181:1211-1216(1995).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE; 95091818.
RA JOSE P.J., ADCOCK I.M., GRIFFITHS-JOHNSON D.A., BERKMAN N.,
RA WELLS T.C., WILLIAMS T.J., POWER C.A.;
RT "Eotaxin: cloning of an eosinophil chemoattractant cytokine and
RT increased mRNA expression in allergen-challenged guinea-pig lungs."
RL BIOCHEM. BIOPHYS. RES. COMMUN. 205:788-794(1994).
RN [3]
RP SEQUENCE OF 24-96.
RC STRAIN=HARTLEY; TISSUE=LUNG;
RX MEDLINE; 94157409.
RA JOSE P.J., GRIFFITHS-JOHNSON D.A., COLLINS P.D., WALSH D.T.,
RA MOBEL R., TOTTY N.F., TRUONG O., HSUAN J.J., WILLIAMS T.J.;
RT "Eotaxin: a potent eosinophil chemoattractant cytokine detected in a
RT guinea pig model of allergic airways inflammation."
RL J. EXP. MED. 179:881-887(1994).
CC -!- FUNCTION: IN RESPONSE TO THE PRESENCE OF ALLERGENS, THIS PROTEIN
CC DIRECTLY PROMOTES THE ACCUMULATION OF EOSINOPHILS, A PROMINENT
CC FEATURE OF ALLERGIC INFLAMMATORY REACTIONS.
CC -!- SUBCELLULAR LOCATION: EXTRACELLULAR.
CC -!- TISSUE SPECIFICITY: LUNG.
CC -!- PTM: O-GLYCOSYLATED (PROBABLE).
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
CC C-C) (CHEMOKINE CC).
CC
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CC
CC EMBL: U18941; G687656; -
CC EMBL: X77603; G602552; -
CC PROSITE: PS00472; SMALL_CYTOKINES_CC; 1.
CC PFAM: PF00048; i18; 1.
CC HSSP: P13500; IMCA.
CC EOSINOPHIL; CYTOKINE; CHEMOTAXIS; GLYCOPROTEIN; SIGNAL;
CC INFLAMMATORY RESPONSE.
FT SIGNAL 1 23
FT CHAIN 24 96
FT DISULFID 31 56
FT DISULFID 32 72
FT CARBOHYD 93 93
FT CONFLICT 88 88
FT CONFLICT D -> G (IN REF. 2).
SQ SEQUENCE 96 AA; 10753 MW; DD28C7E5 CRC32;

Query Match 93.8%; Score 91; DB 1; Length 96;
Best Local Similarity 100.0%; Pred. No. 1.28e-08;
Matches 11; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 71 ICADPKKKWQ 81
:|||||
QY 2 ICADPKKKWQ 12

RESULT 5
ID MCPL_HUMAN STANDARD; PRT; 99 AA.
AC P13500;
DT 01-JAN-1990 (REL. 13, CREATED)


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DR EMBL: M30816; G386961; JOINED.
DR EMBL: M31625; G386961; JOINED.
DR EMBL: M24545; G307163; -.
DR EMBL: M28226; G338009; -.
DR EMBL: X14768; G34514; -.
DR EMBL: M37719; G487124; -.
DR EMBL: M28225; G338007; -.
DR EMBL: M28223; G338007; JOINED.
DR EMBL: M28224; G338007; JOINED.
DR EMBL: M69738; G545465; -.
DR EMBL: S71513; G240868; -.
DR EMBL: A17786; G641145; -.
DR PIR: A35474; A35474.
DR PIR: S03339; S03339.
DR PDB: 1DOK; 12-MAR-97.
DR PDB: 1DOL; 12-MAR-97.
DR PDB: 1DOM; 14-OCT-96.
DR PDB: 1DON; 14-OCT-96.
DR PDB: 1MCA; 15-OCT-94.
DR TIM: 158105; -.
DR PROSITE: PS00472; SMALL_CYTOKINES_CC; 1.
DR PFAM: PF00048; il8; 1.
KW CYTOKINE; CHEMOTAXIS; SIGNAL; INFLAMMATORY RESPONSE; 3D-STRUCTURE.
FT SIGNAL 1 23
FT CHAIN 24 99 MONOCYTE CHEMOTACTIC PROTEIN 1.
FT MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID.
FT DISULFID 34 59
FT CARBOHYD 37 75
FT VARIANT 76 76
FT MUTAGEN 24 24 MISSING: LOSS OF ACTIVITY.
FT MUTAGEN 25 32 MISSING: LOSS OF ACTIVITY.
FT MUTAGEN 24 85 MISSING: 90% REDUCTION IN ACTIVITY.
FT MUTAGEN 24 91 MISSING: 83% REDUCTION IN ACTIVITY.
FT MUTAGEN 26 26 D->A: 90% REDUCTION IN ACTIVITY.
FT MUTAGEN 29 29 N->A: 50% REDUCTION IN ACTIVITY.
FT MUTAGEN 47 47 R->F: 95% REDUCTION IN ACTIVITY.
FT MUTAGEN 50 50 S->Q: 40% REDUCTION IN ACTIVITY.
FT MUTAGEN 51 51 Y->D: LOSS OF ACTIVITY.
FT MUTAGEN 53 53 R->L: LOSS OF ACTIVITY.
FT MUTAGEN 91 91 D->L: 90% REDUCTION IN ACTIVITY.
SQ SEQUENCE 99 AA; 11025 MW; 5355B695 CRC32;

Query Match 91.8%; Score 89; DB 1; Length 99;
Best Local Similarity 83.3%; Pred. No. 4.10e-08;
Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 73 EICADPKQKWQ 84
QY 1 DICADPKKKWQ 12

RESULT 6
ID MCP1_CANFA STANDARD; PRT; 101 AA.
AC P52203.
DT 01-OCT-1996 (REL. 34, CREATED)
DT 01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)
DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
DE MONOCYTE CHEMOTACTIC PROTEIN 1 (MONOCYTE
DE CHEMOATTRACTANT PROTEIN-1).
GN SCYA2 OR MCP1.
OS CANIS FAMILIARIS (DOG).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC CARNIVORA; FISSIPEDIA; CANIDAE; CANIS.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=JUGULAR VEIN ENDOTHELIAL;
RX MEDLINE; 97176620.
RA KUMAR A.G., BALLANTYNE C.M., MICHAEL L.H., KUKIELKA G.L., YOKER K.A.,
RA LINDSEY M.L., HAWKINS H.K., BIRDSALL H.H., MACKAY C.R., LAROSA G.J.,
RA ROSSEN R.D., SMITH C.W., ENTMAN M.L.;
RT "Induction of monocyte chemoattractant protein-1 in the small veins
RT of the ischemic and reperfusion canine myocardium.";

CIRCULATION 95:693-700(1997).
-|- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES, BUT NOT
NEUTROPHILS. IMPORTANT FACTOR IN THE COURSE OF THE INFLAMMATORY
REACTION TO REPERFUSION OF THE PREVIOUSLY ISCHEMIC MYOCARDIUM.
MAY PLAY A SIGNIFICANT ROLE IN MONOCYTE TRAFFICKING INTO THE
REPERFUSED MYOCARDIUM.
-|- SUBUNIT: MONOMER OR HOMODIMER; IN EQUILIBRIUM (BY SIMILARITY).
-|- INDUCTION: BY TNF-ALPHA.
-|- TISSUE SPECIFICITY: ENDOTHELIUM OF SMALL VEINS AND INTRAFASCICULAR
VEINS, AND INFILTRATING LEUCOCYTES.
-|- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
C-C) (CHEMOKINE CC).
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EMBL: U29653; G1144186;
PROSITE: PS00472; SMALL_CYTOKINES_CC; 1.
PFAM: PF00048; il8; 1.
HSP: P13500; IDON.
KW CYTOKINE; CHEMOTAXIS; SIGNAL; INFLAMMATORY RESPONSE.
FT SIGNAL 1 23 BY SIMILARITY.
FT CHAIN 24 101 MONOCYTE CHEMOTACTIC PROTEIN 1.
FT MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID (BY
SIMILARITY).
FT DISULFID 34 59 BY SIMILARITY.
FT DISULFID 35 75 BY SIMILARITY.
SQ SEQUENCE 101 AA; 11121 MW; A7075B14 CRC32;

Query Match 91.8%; Score 89; DB 1; Length 101;
Best Local Similarity 83.3%; Pred. No. 4.10e-08;
Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 73 EICADPKQKWQ 84
QY 1 DICADPKKKWQ 12

RESULT 7
ID MCP4_HUMAN STANDARD; PRT; 98 AA.
AC Q99616.
DT 15-JUL-1998 (REL. 36, CREATED)
DT 15-JUL-1998 (REL. 36, LAST SEQUENCE UPDATE)
DT 15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)
DE MONOCYTE CHEMOTACTIC PROTEIN 4 PRECURSOR (MCP-4) (MONOCYTE
DE CHEMOATTRACTANT PROTEIN 4) (CK-BETA10) (NCC-1).
GN SCYA13 OR MCP4 OR NCC1.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC PRIMATES; CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=HEART;
RX MEDLINE; 97113354.
RA GARCIA-ZEPEDA E.A., COMBADIÈRE C., ROTHENBERG M.E., SARAFI M.N.,
RA LAVIGNE F., HAMID Q., MURPHY P.M., LUSTER A.D.;
RT "Human monocyte chemoattractant protein (MCP)-4 is a novel CC
chemokine with activities on monocytes, eosinophils, and basophils
induced in allergic and nonallergic inflammation that signals through
the CC chemokine receptors (CCR)-2 and -3.";
RL J. IMMUNOL. 157:5613-5626(1996).
RN [2]
RP SEQUENCE FROM N.A., AND SEQUENCE OF 17-98.
RC TISSUE=FETAL;
RX MEDLINE; 96235049.
RA UGUCCIONI M., LOETSCHER P., FORSSMANN U., DEWALD B., LI H., LIMA S.H.,
RA LI Y., KREIDER B., GAROTTA G., THELEN M., BAGGIOLINI M.;
RT "Monocyte chemotactic protein 4 (MCP-4), a novel structural and

```

functional analogue of MCP-3 and eotaxin.";
[3]
J. EXP. MED. 183:2379-2384(1996).

SEQUENCE FROM N.A., AND SEQUENCE OF 22-33.
TISSUE=FETAL;

MEDLINE; 97341179.

RA BERKHOUT T.A., SARAU H.M., MOORES K., WHITE J.R., ELSHOUBAGY N.,
RA APPELBAUM E., REAPE T.J., BRANNER M., MAKWANA J., FOLEY J.J.,
RA SCHMIDT D.B., IMBURGIA C., MACNULTY D., MATTHEWS J., O'DONNELL K.,
RA O'SHANNESSEY D., SCOTT M., GROOT P.H.E., MACPHEE C.;
RT "Cloning, in vitro expression, and functional characterization of a
RT novel human CC chemokine of the monocyte chemotactic protein (MCP)
RT family (MCP-4) that binds and signals through the CC chemokine
RT receptor 2B.";
RT J. BIOL. CHEM. 272:16404-16413(1997).

[4]
SEQUENCE FROM N.A.

RA DANTE M., GIBSON A.;
RL SUBMITTED (AUG-1997) TO EMBL/GENBANK/DBJ DATA BANKS.

[5]
SEQUENCE FROM N.A.

TISSUE=LUNG;

RA POWER C.A., RISON S.C.G., GUYE-COULIN F., WELLS T.N.C.;
RL SUBMITTED (DEC-1997) TO EMBL/GENBANK/DBJ DATA BANKS.

CC -!- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES, LYMPHOCYTES,
CC BASOPHILS AND EOSINOPHILS, BUT NOT NEUTROPHILS. SIGNALS THROUGH
CC CCR2B AND CCR3 RECEPTORS. PLAYS A ROLE IN THE ACCUMULATION OF
CC LEUKOCYTES AT BOTH SIDES OF ALLERGIC AND NONALLERGIC INFLAMMATION.
CC MAY BE INVOLVED IN THE RECRUITMENT OF MONOCYTES INTO THE ARTERIAL
CC WALL DURING THE DISEASE PROCESS OF ARTEROSCLEROSIS. MAY PLAY A
CC ROLE IN THE MONOCYTE ATTRACTION IN TISSUES CHRONICALLY EXPOSED TO
CC EXOGENOUS PATHOGENS.

CC -!- MASS SPECTROMETRY: MW=9314; MW_ERR=30; METHOD=WALDI; RANGE=17-98.

CC -!- MASS SPECTROMETRY: MW=8760; MW_ERR=30; METHOD=WALDI; RANGE=22-98.

CC -!- MASS SPECTROMETRY: MW=8575; MW_ERR=30; METHOD=WALDI; RANGE=24-98.

CC -!- INDUCTION: BY INTERLEUKIN-1 AND TNF-ALPHA.

CC -!- TISSUE SPECIFICITY: WIDELY EXPRESSED. FOUND IN SMALL INTESTINE,
CC THYMUS, COLON, LUNG, TRACHEA, STOMACH AND LYMPH NODE. LOW LEVELS
CC SEEN IN THE PULMONARY ARTERY SMOOTH MUSCLE CELLS.

CC -!- THIS PROTEIN CAN BIND HEPARIN.

CC -!- PTM: ONE MAJOR ISOFORM MCP-4, AND TWO MINOR ISOFORMS (LA)MCP-4 AND
(FN)MCP-4 ARE PRODUCED BY DIFFERENTIAL SIGNAL CLEAVAGE.
(LA)MCP-4 IS ABOUT 30 FOLD LESS ACTIVE THAN MCP-4.

CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
C-C) (CHEMOKINE CC).

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EMBL; U46767; G1732123; -.

DR EMBL; AC002482; G2340091; -.

DR EMBL; X98306; E248571; -.

DR MIM; 601391; -.

DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.

DR PFAM; PF00048; i18; 1.

DR HSSP; P13500; 1DOL.

KW CYTOKINE; CHEMOTAXIS; SIGNAL; GLYCOPROTEIN; INFLAMMATORY RESPONSE.

FT SIGNAL 1 23

FT CHAIN 24 98 MONOCYTE CHEMOTACTIC PROTEIN 4.

FT MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID.

FT DISULFID 34 58 BY SIMILARITY.

FT DISULFID 35 74 BY SIMILARITY.

FT CARBOHYD 29 29 POTENTIAL.

FT SEQUENCE 98 AA; 10986 MW; DF52F6EC CRC32;

Query Match

Best Local Similarity 80.7%; Score 88; DB 1; Length 98;

Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 72 EICADPKKKVQ 83

QY :||||| |||

1 DICADPKKKVQ 12

RESULT 8

ID MCP1_PIG STANDARD; PRT; 99 AA.

AC P42831;

DT 01-NOV-1995 (REL. 32, CREATED)

DT 01-NOV-1995 (REL. 32, LAST SEQUENCE UPDATE)

DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)

DE MONOCYTE CHEMOTACTIC PROTEIN 1 PRECURSOR (MCP-1).

GN SCY42.

OS SUS SCROFA (PIG).

OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;

OC ARTIODACTYLA; SUIFORMES; SUINA; SUIDAE; SUS.

RN [1]

RP SEQUENCE FROM N.A.

RX MEDLINE; 94183284.

RA HOSANG K., KNOKE I., KLAUDINY J., WEMPE F., WUTTKE W., SCHEIT K.H.;

RT "Porcine luteal cells express monocyte chemoattractant protein-1

(MCP-1): analysis by polymerase chain reaction and cDNA cloning.";

RL BIOCHEM. BIOPHYS. RES. COMMUN. 199:962-968(1994).

RN [2]

RP SEQUENCE FROM N.A.

RC TISSUE=BRAIN;

RA ZACH O.R.F.;

RL SUBMITTED (JUL-1994) TO EMBL/GENBANK/DBJ DATA BANKS.

CC -!- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES, BUT NOT

CC NEUTROPHILS.

CC -!- SUBUNIT: MONOMER OR HOMODIMER; IN EQUILIBRIUM (BY SIMILARITY).

CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE

C-C) (CHEMOKINE CC).

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or send an email to license@isb-sib.ch).

EMBL; 248479; G683717; -.

DR EMBL; X79416; G872313; -.

DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.

DR PFAM; PF00048; i18; 1.

DR HSSP; P13500; 1DON.

KW CYTOKINE; CHEMOTAXIS; SIGNAL; INFLAMMATORY RESPONSE.

FT SIGNAL 1 23

FT CHAIN 24 99 MONOCYTE CHEMOTACTIC PROTEIN 1.

FT MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID (BY

FT SEQUENCE 99 AA; 10976 MW; ECC3AFB4 CRC32;

FT DISULFID 34 59 BY SIMILARITY.

FT DISULFID 35 75 BY SIMILARITY.

FT SEQUENCE 99 AA; 10976 MW; ECC3AFB4 CRC32;

Query Match

Best Local Similarity 90.7%; Score 88; DB 1; Length 99;

Matches 9; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 73 EICAEPKKKVQ 84

QY :||||| |||

1 DICADPKKKVQ 12

RESULT 9

ID MCP2_BOVIN STANDARD; PRT; 99 AA.

AC Q09141.

DT 01-NOV-1995 (REL. 32, CREATED)

DT 01-NOV-1995 (REL. 32, LAST SEQUENCE UPDATE)

DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)

DE MONOCYTE CHEMOTACTIC PROTEIN 2 PRECURSOR (MCP-2) (MONOCYTE

DE CHEMOATTRACTANT PROTEIN 2).

GN SCYA8 OR MCP2.

OS BOS TAURUS (BOVINE).

OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;

OC ARTIODACTYLA; RUMINANTIA; PECORA; BOVIDAE; BOVINAE; BOS.

RN [1]

RP SEQUENCE FROM N.A.

RX MEDLINE; 94114084.

RA WENPE F., HANES J., SCHEIT K.H.;

RT "Cloning of the gene for bovine monocyte chemoattractant protein-2.;"

RL DNA CELL BIOL. 13:1-8(1994).

CC -!- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES. THIS PROTEIN

CC CAN BIND HEPARIN.

CC -!- SUBUNIT: MONOMER OR HOMODIMER; IN EQUILIBRIUM (BY SIMILARITY).

CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE

CC C-C) (CHEMOKINE CC).

CC -----

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CC -----

CC EMBL; S67954; E118856; -

CC EMBL; S67956; G544997; -

CC PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.

CC PFAM; PF00048; i18; 1.

CC HSP; P80098; INCV.

CC CYTOKINE; CHEMOTAXIS; SIGNAL; HEPARIN-BINDING; INFLAMMATORY RESPONSE.

CC SIGNAL 1 23 BY SIMILARITY.

CC CHAIN 24 99 MONOCYTE CHEMOTACTIC PROTEIN 2.

CC MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID (BY

CC SIMILARITY).

CC DISULFID 34 59 BY SIMILARITY.

CC DISULFID 35 75 BY SIMILARITY.

CC SEQUENCE 99 AA; 10900 MW; 98A2CD26 CRC32;

CC

Query Match 90.7%; Score 88; DB 1; Length 99;

Best Local Similarity 83.3%; Pred. No. 7.31e-08;

Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 73 DVCADPKKKWQ 84

QY 1 DVCADPKKKWQ 12

RESULT 10

ID MIP4_HUMAN STANDARD; PRT; 89 AA.

AC P55774;

DT 01-NOV-1997 (REL. 35, CREATED)

DT 01-NOV-1997 (REL. 35, LAST SEQUENCE UPDATE)

DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)

DE MACROPHAGE INFLAMMATORY PROTEIN 4 PRECURSOR (MIP-4) (PULMONARY AND

DE ACTIVATION-REGULATED CHEMOKINE) (CC CHEMOKINE PARC) (ALTERNATIVE

DE ACTIVATED MACROPHAGE ASSOCIATED CC CHEMOKINE 1) (AMAC-1).

GN SCYA18 OR MIP4.

OS HOMO SAPIENS (HUMAN).

OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;

OC PRIMATES; CATARRHINI; HOMINIDAE; HOMO.

RN [1]

RP SEQUENCE FROM N.A.

RA LI H., RUBEN S.;

RT "Macrophage inflammatory protein-3 and -4.;"

RL PATENT NUMBER US5504003, 02-APR-1996.

RN [2]

RP SEQUENCE FROM N.A., AND PARTIAL SEQUENCE.

RC TISSUE=AORTA, AND LUNG;

RX MEDLINE; 97376836.

RA HIESHIMA K., INAI T., BABA M., SHOUDAI K., ISHIZUKA K.,

RA NAKAGAWA T., TSURUTA J., TAKEYA M., SAKAKI Y., TAKATSUKI K.,

RA MIURA R., OPDENAKKER G., VAN DAMME J., YOSHIE O., NOMIYAMA H.;

RT "A novel human CC chemokine PARC that is most homologous to

RT macrophage-inflammatory protein-1 alpha/LD78 alpha and chemotactic

RL for T lymphocytes, but not for monocytes.;"

RN J. IMMUNOL. 159:1140-1149(1997).

RP [3]

RP SEQUENCE FROM N.A.

RA KODELJA V., MUELLER C., POLITZ O., HAKIV N., ORFANOS C.E., GOERDT S.;

RL SUBMITTED (AUG-1997) TO EMBL/GENBANK/DBJ DATA BANKS.

RN [4]

RN DISCUSSION OF SEQUENCE.

RX MEDLINE; 97275308.

RA WELLS T.N.C., PEITSCH M.C.;

RT "The chemokine information source: identification and

RT characterization of novel chemokines using the WorldWideWeb and

RT expressed sequence tag databases.;"

RL J. LEUKOC. BIOL. 61:545-550(1997).

CC -!- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS LYMPHOCYTES BUT NOT

CC MONOCYTES OR GRANULOCYTES. MAY BE INVOLVED IN B CELL MIGRATION

CC INTO B CELL FOLLICLES IN LYMPH NODES.

CC -!- TISSUE SPECIFICITY: EXPRESSED AT HIGH LEVELS IN THE LUNG. A LOWER

CC LEVEL EXPRESSION IS SEEN IN LYMPHOID TISSUES SUCH AS LYMPH NODES,

CC THYMUS AND APPENDIX.

CC -!- INDUCTION: BY LIPOPOLYSACCHARIDE (LPS).

CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE

CC C-C) (CHEMOKINE CC).

CC -----

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CC -----

CC EMBL; AB000221; D1022520; -

CC EMBL; Y13710; E321838; -

CC PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.

CC PFAM; PF00048; i18; 1.

CC HSP; P13236; LHUN.

CC CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.

CC SIGNAL 1 20

CC CHAIN 21 89 MACROPHAGE INFLAMMATORY PROTEIN 4.

CC DISULFID 30 54 BY SIMILARITY.

CC DISULFID 31 70 BY SIMILARITY.

CC SEQUENCE 89 AA; 9849 MW; 052AA3DC CRC32;

CC

Query Match 88.7%; Score 86; DB 1; Length 89;

Best Local Similarity 83.3%; Pred. No. 2.31e-07;

Matches 10; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Db 68 QICADPNKKWQ 79

QY 1 DVCADPKKKWQ 12

RESULT 11

ID MCP1_MOUSE STANDARD; PRT; 148 AA.

AC P10148;

DT 01-MAR-1989 (REL. 10, CREATED)

DT 01-MAR-1989 (REL. 10, LAST SEQUENCE UPDATE)

DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)

DE MONOCYTE CHEMOTACTIC PROTEIN 1 PRECURSOR (MCP-1) (PLATELET-DERIVED

DE GROWTH FACTOR-INDUCIBLE PROTEIN JE).

GN SCYA2 OR MCP1 OR JE.

OS MUS MUSCULUS (MOUSE).

OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;

OC RODENTIA; SCIUROGNATHI; MURIDAE; MUS.

RN [1]

RP SEQUENCE FROM N.A.

RX MEDLINE; 89093129.

RA KAWAHARA R.S., DEUEL T.F.;

RT "Platelet-derived growth factor-inducible gene JE is a member of a

RT family of small inducible genes related to platelet factor 4.;"

RL J. BIOL. CHEM. 264:679-682(1989).

RN [2]

RP SEQUENCE FROM N.A.

RX MEDLINE; 88234501.

RA ROLLINS B.J., MORRISON E.D., STILES C.D.;

RT "Cloning and expression of JE, a gene inducible by platelet-derived

RT growth factor and whose product has cytokine-like properties.";

RL PROC. NATL. ACAD. SCI. U.S.A. 85:3738-3742(1988).

RN [3]

RP SEQUENCE OF 26-42.

RX MEDLINE; 91293127.

RA VAN DAMME J., DECOCK B., BERTINI R., CONINGS R., LENAERTS J.-P.,

RA PUT W., OPDENAKKER G., MANTOVANI A.;

RT "Production and identification of natural monocyte chemotactic

RT protein from virally infected murine fibroblasts. Relationship with

RT the product of the mouse competence (JE) gene.";

RL EUR. J. BIOCHEM. 199:223-229(1991).

RN [3]

RP SEQUENCE: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES, BUT NOT

CC NEUTROPHILS.

CC -!- SUBUNIT: MONOMER OR HOMODIMER; IN EQUILIBRIUM (BY SIMILARITY).

CC -!- INDUCTION: BY PLATELET-DERIVED GROWTH FACTOR.

CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE

CC C-C) (CHEMOKINE CC).

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CC -----

DR EMBL; J04467; G387169; -.

DR EMBL; M19681; G387168; -.

DR PIR; A30209; A30209.

DR PIR; A30861; A30861.

DR PIR; S16226; S16226.

DR MGD; MGI:98259; SCY2.

DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.

DR PFAM; PF00048; i18; 1.

DR HSP; P13500; 1D0L.

KW CYTOKINE; CHEMOTAXIS; SIGNAL; INFLAMMATORY RESPONSE; GLYCOPROTEIN.

FT SIGNAL 1 23

FT CHAIN 24 148

FT MOD_RES 24 24

FT BY SIMILARITY.

FT MONOCYTE CHEMOTACTIC PROTEIN 1.

FT PYRROLIDONE CARBOXYLIC ACID (BY

FT SIMILARITY).

FT DISULFID 34 59

FT BY SIMILARITY.

FT DISULFID 35 75

FT BY SIMILARITY.

FT CARBOHYD 126 126

FT POTENTIAL.

FT SEQUENCE 148 AA; 16326 MW; B7572BEC CRC32;

SQ

Query Match 88.7%; Score 86; DB 1; Length 148;

Best Local Similarity 75.0%; Pred. No. 2.31e-07;

Matches 9; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 73 EVCADPKKQWQ 84

QY :||||| |||

1 DICADPKKQWQ 12

RESULT 12

ID MCPA_BOVIN STANDARD; PRT; 99 AA.

AC P28291;

DT 01-DEC-1992 (REL. 24, CREATED)

DT 01-DEC-1992 (REL. 24, LAST SEQUENCE UPDATE)

DT 01-NOV-1995 (REL. 32, LAST ANNOTATION UPDATE)

DE MONOCYTE CHEMOTACTIC PROTEIN 1A PRECURSOR (MCP-1) (ACIDIC

DE SEMINAL FLUID PROTEIN).

OS BOS TAURUS (BOVINE).

OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;

OC ARTIODACTYLIA; RUMINANTIA; PECORA; BOVIDAE; BOVINAE; BOS.

RN [1]

RP SEQUENCE FROM N.A.

RC TISSUE-SEMINAL PLASMA;

RA MEDLINE; 92096117.

RA WEMPE F., HENSCHEN A., SCHEIT K.H.;

RT "Gene expression and cDNA cloning identified a major basic protein

RT constituent of bovine seminal plasma as bovine

RT monocyte-chemoattractant protein-1 (MCP-1).";

RL DNA CELL BIOL. 10:671-679(1991).

RN [2]

RP SEQUENCE FROM N.A.

RC TISSUE-SEMINAL PLASMA;

RA MEDLINE; 92181448.

RA WEMPE F., EINSPANIER R., SCHEIT K.H.;

RT "Characterization by cDNA cloning of the mRNA of a new growth factor

RT from bovine seminal plasma: acidic seminal fluid protein.";

RL BIOCHEM. BIOPHYS. RES. COMMUN. 183:232-237(1992).

RN [3]

RP SEQUENCE FROM N.A.

RC MEDLINE; 94338337.

RA WEMPE F., KUHLMANN J.K., SCHEIT K.H.;

RT "Characterization of the bovine monocyte chemoattractant protein-1

RT gene.";

RL BIOCHEM. BIOPHYS. RES. COMMUN. 202:1272-1279(1994).

CC -!- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES, BUT NOT

CC NEUTROPHILS.

CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE

CC C-C) (CHEMOKINE CC).

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CC -----

DR EMBL; L32659; G624394; -.

DR EMBL; M84602; G163395; -.

DR PIR; A39296; A39296.

DR PIR; JC2336; JC2336.

DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.

DR PFAM; PF00048; i18; 1.

DR HSP; P13500; 1D0L.

KW CYTOKINE; CHEMOTAXIS; SIGNAL.

FT SIGNAL 1 23

FT CHAIN 24 99

FT MOD_RES 24 24

FT BY SIMILARITY.

FT MONOCYTE CHEMOTACTIC PROTEIN 1A.

FT PYRROLIDONE CARBOXYLIC ACID (BY

FT SIMILARITY).

FT DISULFID 34 59

FT BY SIMILARITY.

FT DISULFID 35 75

FT BY SIMILARITY.

FT SEQUENCE 99 AA; 11114 MW; C8F5821D CRC32;

SQ

Query Match 86.6%; Score 84; DB 1; Length 99;

Best Local Similarity 75.0%; Pred. No. 7.20e-07;

Matches 9; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 73 ELCADPKKQWQ 84

QY :||||| |||

1 DICADPKKQWQ 12

RESULT 13

ID MCP1_RABIT STANDARD; PRT; 125 AA.

AC P28292;

DT 01-DEC-1992 (REL. 24, CREATED)

DT 01-DEC-1992 (REL. 24, LAST SEQUENCE UPDATE)

DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)

DE MONOCYTE CHEMOTACTIC PROTEIN 1 PRECURSOR (MCP-1).

GN SCY2.

OS ORCTOLAGUS CUNICULUS (RABBIT).

OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;

OC LAGOMORPHA; LEPORIDAE; ORCTOLAGUS.

RN [1]

RP SEQUENCE FROM N.A.

RC STRAIN-NEW ZEALAND WHITE; TISSUE-SPLEEN;
RX MEDLINE: 91225489.
RA YOSHIMURA T., YUHKI N.;
RT "Neutrophil attractant/activation protein-1 and monocyte
RT chemoattractant protein-1 in rabbit. cDNA cloning and their
RT expression in spleen cells.";
RL J. IMMUNOL. 146:3483-3488(1991).
CC -!- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES, BUT NOT
CC NEUTROPHILS.
CC -!- SUBUNIT: MONOMER OR HOMODIMER; IN EQUILIBRIUM (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
CC C-C) (CHEMOKINE CC).
CC -----
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CC -----
DR EMBL: M57440; G163470; -
DR PROSITE: PS00472; SMALL_CYTOKINES_CC; 1.
DR PFAM: PF00048; i18; 1.
DR HSP: P13500; 1DON.
KW CYTOKINE; CHEMOTAXIS; SIGNAL; INFLAMMATORY RESPONSE; GLYCOPROTEIN.
FT SIGNAL 1 23
FT CHAIN 24 125
FT MOD_RES 24 24
FT DISULFID 34 59
FT DISULFID 35 75
FT CARBOHYD 40 40
FT CARBOHYD 55 55
FT CARBOHYD 112 112
FT SEQUENCE 125 AA; 13776 MW; FBAC9D27 CRC32;
SQ

Query Match 86.6%; Score 84; DB 1; Length 125;
Best Local Similarity 90.9%; Pred. No. 7.20e-07;
Matches 10; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Db 74 ICADPKQKVVQ 84
||||| |||||
QY 2 ICADPKKVVQ 12

RESULT 14
ID MCP3 HUMAN STANDARD; PRT; 99 AA.
AC P80098;
DT 01-DEC-1992 (REL. 24, CREATED)
DT 01-NOV-1995 (REL. 32, LAST SEQUENCE UPDATE)
DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
DE MONOCYTE CHEMOTACTIC PROTEIN 3 (MCP-3) (MONOCYTE
DE CHEMOATTRACTANT PROTEIN 3) (NC28).
GN SCYA7 OR MCP3.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC PRIMATES; CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A., AND SEQUENCE OF 31-67 AND 71-99.
RX MEDLINE: 93213290.
RA OPDENAKKER G., FROYEN G., FITEN P., PROOST P., VAN DAMME J.;
RT "Human monocyte chemotactic protein-3 (MCP-3): molecular cloning of
RT the cDNA and comparison with other chemokines.";
RL BIOCHEM. BIOPHYS. RES. COMMUN. 191:535-542(1993).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE: 94375065.
RA OPDENAKKER G., FITEN P., NYS G., FROYEN G., VAN ROY N., SPELEMAN F.,
RA LAUREYS G., VAN DAMME J.;
RT "The human MCP-3 gene (SCYA7): cloning, sequence analysis, and
RT assignment to the C-C chemokine gene cluster on chromosome
RT 17q11.2-q12.";

GENOMICS 21:403-408(1994).
[3]
RP SEQUENCE FROM N.A.
RX MEDLINE: 93305913.
RA MINTY A., CHALON P., GUILLEMOT J.C., KAGHAD M., LIAUZON P.,
RA MAGAZIN M., MILOUX B., MINTY C., RAMOND P., VITA N., LUPKER J.,
RA SHIRE D., FERRARA P., CAPUT D.;
RT "Molecular cloning of the MCP-3 chemokine gene and regulation of its
RT expression.";
RL EUR. CYTOKINE NETW. 4:99-110(1993).
RN [4]
RP SEQUENCE OF 30-99.
RC TISSUE-OSTEOSARCOMA;
RX MEDLINE: 92308855.
RA VAN DAMME J., PROOST P., LENAERTS J.-P., OPDENAKKER G.;
RT "Structural and functional identification of two human, tumor-derived
RT monocyte chemotactic proteins (MCP-2 and MCP-3) belonging to the
RT chemokine family.";
RL J. EXP. MED. 176:59-65(1992).
RN [5]
RP STRUCTURE BY NMR, AND SUBUNIT.
RX MEDLINE: 97053697.
RA KIM K.-S., RAJARATHNAM K., CLARK-LEWIS I., SYKES B.D.;
RT "Structural characterization of a monomeric chemokine: monocyte
RT chemoattractant protein-3.";
RL FEBS LETT. 395:277-282(1996).
RN [6]
RP STRUCTURE BY NMR.
RX MEDLINE: 97263733.
RA MEUNIER S., BERNASSAU J.-M., GUILLEMOT J.-C., FERRARA P., DARBON H.;
RT "determination of the three-dimensional structure of CC chemokine
RT monocyte chemoattractant protein 3 by 1H two-dimensional NMR
RT spectroscopy.";
RL BIOCHEMISTRY 36:4412-4422(1997).
CC -!- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES AND
CC EOSINOPHILS, BUT NOT NEUTROPHILS. AUGMENTS MONOCYTE ANTI-TUMOR
CC ACTIVITY. ALSO INDUCES THE RELEASE OF GELATINASE B. THIS PROTEIN
CC CAN BIND HEPARIN.
CC -!- SUBUNIT: MONOMER.
CC -!- PTM: O-GLYCOSYLATED.
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
CC C-C) (CHEMOKINE CC).
CC -----
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CC -----
DR EMBL: X72308; G313708; ALT_INIT.
DR EMBL: X72309; -; NOT_ANNOTATED_CDS.
DR EMBL: X71087; G288399;
DR EMBL: X71087; G288398; ALT_INIT.
DR EMBL: X71087; G288397; ALT_INIT.
DR PIR: JC1478; JC1478.
DR PIR: S32222; S32222.
DR PIR: A54678; A54678.
DR PDB: 1NCV; 15-OCT-97.
DR MIM: 158106; -
DR PROSITE: PS00472; SMALL_CYTOKINES_CC; 1.
DR PFAM: PF00048; i18; 1.
KW CYTOKINE; CHEMOTAXIS; HEPARIN-BINDING; GLYCOPROTEIN; SIGNAL;
KW INFLAMMATORY RESPONSE; 3D-STRUCTURE.
FT SIGNAL 1 23
FT CHAIN 24 99
FT MOD_RES 24 24
FT DISULFID 34 59
FT DISULFID 35 75
FT CARBOHYD 29 29
FT CARBOHYD 30 30
FT CONFLICT 68 70
T -> K (IN REF. 4).
MISSING (IN REF. 4).

SQ SEQUENCE 99 AA: 11200 MW; 7502E19C CRC32;

Query Match 84.5%; Score 82; DB 1; Length 99;
Best Local Similarity 75.0%; Pred.No. 2.22e-06;
Matches 9; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Db 73 EICADPTOKWVQ 84
:|||||
QY 1 DICADPKKKWVQ 12

RESULT 15
ID MCP1_RAT STANDARD; PRT; 148 AA.
AC P14844;
DT 01-APR-1990 (REL. 14, CREATED)
DT 01-APR-1990 (REL. 14, LAST SEQUENCE UPDATE)
DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
DE MONOCYTE CHEMOTACTIC PROTEIN 1 PRECURSOR (MCP-1) (IMMEDIATE-EARLY
DE SERUM-RESPONSIVE JE PROTEIN).
GN SCYA2 OR JE OR MCP1.
OS RATTUS NORVEGICUS (RAT).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; RATTUS.
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=WAG/R1J; TISSUE=KIDNEY;
RX MEDLINE; 90174947.
RA YOSHIMURA T., TAKEYA M., TAKAHASHI K.;
RA TIMMERS H.T.H.M., PRONK G.J., BOS J.L., VAN DER EB A.J.;
RT "Analysis of the rat JE gene promoter identifies an AP-1 binding site
RT essential for basal expression but not for TPA induction.";
RL NUCLEIC ACIDS RES. 18:23-34(1990).
RN [2]

RP SEQUENCE FROM N.A.
RX MEDLINE; 91128376.
RA YOSHIMURA T., TAKEYA M., TAKAHASHI K.;
RT "Molecular cloning of rat monocyte chemoattractant protein-1 (MCP-1)
RT and its expression in rat spleen cells and tumor cell lines.";
RL BIOCHEM. BIOPHYS. RES. COMMUN. 174:504-509(1991).
CC -!- FUNCTION: CHEMOTACTIC FACTOR THAT ATTRACTS MONOCYTES, BUT NOT
CC NEUTROPHILS.
CC -!- SUBUNIT: MONOMER OR HOMODIMER; IN EQUILIBRIUM (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE BETA FAMILY (SMALL CYTOKINE
CC C-C) (CHEMOKINE CC).
CC -----
CC This SWISS-PROT entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
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CC or send an email to license@isb-sib.ch).
CC -----

EMBL; X17053; G55531; -.
DR EMBL; M57441; G205334; -.
DR PIR; JN0128; JN0128.
DR PIR; S07723; S07723.
DR PROSITE; PS00472; SMALL_CYTOKINES_CC; 1.
DR PFAM; PF00048; i18; 1.
DR HSP; P13500; 1DOL.
KW CYTOKINE; CHEMOTAXIS; SIGNAL; INFLAMMATORY RESPONSE; GLYCOPROTEIN.
FT SIGNAL 1 23 BY SIMILARITY.
FT CHAIN 24 148 MONOCYTE CHEMOTACTIC PROTEIN 1.
FT MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID (BY
FT SIMILARITY).
FT DISULFID 34 59 BY SIMILARITY.
FT DISULFID 35 75 BY SIMILARITY.
FT CARBOHYD 126 126 POTENTIAL.
SQ SEQUENCE 148 AA; 16460 MW; DB97F7C CRC32;

Query Match 84.5%; Score 82; DB 1; Length 148;
Best Local Similarity 75.0%; Pred.No. 2.22e-06;
Matches 9; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 73 EICADPNKEWVQ 84
:|||||
QY 1 DICADPKKKWVQ 12

Search completed: Fri Feb 4 17:57:13 2000
Job time : 7 secs.

WILEY

(TM)

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MPSrch_pp protein - protein database search, using Smith-Waterman algorithm

Run on: Fri Feb 4 17:55:46 2000; MasPar time 3.52 Seconds
72.505 Million cell updates/sec
Tabular output not generated.

Title: >US-09-150-813-68
Description: (1-12) from US09150813.pgp
Perfect Score: 97
Sequence: 1 DICADPKKWWQ 12
Scoring table: PAM 150
Gap 15

Searched: 170751 seqs, 21266608 residues

Post-processing: Minimum Match 0%
Listing first 45 summaries

Database: a-geneseq35
1:part1 2:part2 3:part3 4:part4 5:part5 6:part6 7:part7
8:part8 9:part9 10:part10 11:part11 12:part12 13:part13
14:part14 15:part15 16:part16 17:part17 18:part18
19:part19 20:part20 21:part21 22:part22 23:part23
24:part24 25:part25 26:part26 27:part27 28:part28
29:part29 30:part30 31:part31 32:part32 33:part33
34:part34 35:part35 36:part36 37:part37 38:part38
39:part39

Statistics: Mean 18.545; Variance 65.577; scale 0.283

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match | Length | ID | Description | Pred. No. |
|------------|-------|-------------|--------|----|-------------|-----------|
| 1 | 97 | 100.0 | 82 | 29 | W44721 | 8 92e-03 |
| 2 | 97 | 100.0 | 97 | 21 | W00667 | 8 92e-03 |
| 3 | 97 | 100.0 | 97 | 23 | W10099 | 8 92e-03 |
| 4 | 97 | 100.0 | 97 | 24 | W14990 | 8 92e-03 |
| 5 | 91 | 93.8 | 73 | 13 | R70252 | 3 75e-02 |
| 6 | 91 | 93.8 | 96 | 24 | W14991 | 3 75e-02 |
| 7 | 89 | 91.8 | 66 | 24 | W13598 | 6 04e-02 |
| 8 | 89 | 91.8 | 67 | 24 | W13599 | 6 04e-02 |
| 9 | 89 | 91.8 | 68 | 24 | W13597 | 6 04e-02 |
| 10 | 89 | 91.8 | 69 | 14 | R87678 | 6 04e-02 |
| 11 | 89 | 91.8 | 69 | 24 | W13596 | 6 04e-02 |
| 12 | 89 | 91.8 | 76 | 30 | W40175 | 6 04e-02 |
| 13 | 89 | 91.8 | 76 | 14 | R87677 | 6 04e-02 |
| 14 | 89 | 91.8 | 76 | 20 | W03374 | 6 04e-02 |
| 15 | 89 | 91.8 | 76 | 14 | R87676 | 6 04e-02 |
| 16 | 89 | 91.8 | 76 | 1 | P90292 | 6 04e-02 |

| ID | W44721 | standard; | Protein; | 82 AA. |
|----|---|------------------------|----------|--------|
| AC | W44721; | | | |
| DE | 05-JUN-1998 (first entry) | | | |
| KW | Amino acid sequence of the secreted protein encoded by clone AM362_11. | | | |
| KW | Secreted protein; antibody; immunoassay reagent; | | | |
| OS | nutritional supplement; therapeutic activity; eotaxin precursor. | | | |
| OS | Homo sapiens. | | | |
| FT | Key | Location/Qualifiers | | |
| FT | Misc_difference 15 | /note= "not specified" | | |
| PN | WO9746683-A2. | | | |
| PD | 11-DEC-1997. | | | |
| PF | 06-JUN-1997; U09878. | | | |
| PR | 07-JUN-1996; US-659224. | | | |
| PA | (GENY) GENETICS INST INC. | | | |
| PI | Bowman M, Evans C, Jacobs K, Lavallie ER, McCly JM, | | | |
| PI | Merberg D, Racie LA, Spaulding V, Treacy M; | | | |
| DR | WPI: 98-042191/04. | | | |
| DR | N-PSDB: V05729. | | | |
| PT | Nucleic acids encoding secreted proteins from clones within ATCC | | | |
| PT | 98076 - useful as immuno-modulators, anti-proliferative agents, | | | |
| PT | regulators of cell differentiation and tissue growth, etc | | | |
| PS | Claim 26: Page 68: 99pp: English. | | | |
| CC | The present sequence represents the amino acid sequence of a | | | |
| CC | secreted protein encoded by clone AM362_11. The clone was isolated | | | |
| CC | from a human fetal kidney cDNA library using probe V05756. AM262.11 | | | |
| CC | has some identity with the human eotaxin precursor gene and protein. | | | |
| CC | As such, the AM262_11 protein may share some activity. The nucleic | | | |
| CC | acid can be used for expression of recombinant proteins, as tissue, | | | |
| CC | molecular weight or chromosome markers, indicators of genetic disorders | | | |
| CC | and sources of probes and primers. They can also be used to generate | | | |
| CC | anti-protein or anti-DNA antibodies and as components of interaction | | | |
| CC | trap assays etc. The protein is useful for raising antibodies, as | | | |
| CC | immunoassay reagents and as nutritional supplements. The protein may | | | |
| CC | possibly have any of a great variety of therapeutic activities. | | | |
| SQ | Sequence 82 AA; | | | |

Query Match 100.0%; Score 97; DB 29; Length 82;
Best Local Similarity 100.0%; Pred. No. 8.92e-03;

Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 71 dicadpkkkvvq 82
 |||||
 QY 1 DICADPKKKVQ 12

RESULT 2

ID W00667 standard; Protein; 97 AA.
 AC W00667;
 DT 02-MAY-1997 (first entry)
 DE Pancreas-expressed chemokine-1.
 KW Pancreas-derived chemokine; PANEC-1; PANEC-2; diagnosis;
 OS Inflammation; disease; cancer.
 PN Homo sapiens.
 PN W09625497-A1.
 PD 22-AUG-1996.
 PF 16-FEB-1996; U02225.
 PF 17-FEB-1995; US-390740.
 PA (INCY-) INCYTE PHARM INC.
 PI Bandman O, Coleman R, Wilde CG;
 DR WPI; 96-393398/39.
 DR N-PSDB: T3327.
 PT Nucleotide and protein sequences for human PANEC-1 and PANEC-2 -
 useful in diagnosis and therapy of pancreatic diseases
 PS Claim 8; Page 28-29; 43pp; English.
 CC The sequences given in W00667-68 represent pancreas-derived chemokines,
 CC PANEC-1 and PANEC-2. These chemokines are highly expressed and
 CC specifically expressed in the pancreas and may therefore be used in
 CC diagnostic assays based on chemokine production in cases of
 CC inflammation or disease affecting the pancreas. These assays allow
 CC the early and accurate diagnosis of pancreatic disorders, and can
 CC differentiate between invasive diseases and genetic syndromes.
 SQ Sequence 97 AA;

Query Match 100.0%; Score 97; DB 21; Length 97;

Best Local Similarity 100.0%; Pred. No. 8.92e-03; Indels 0; Gaps 0;
 Matches 12; Conservative 0; Mismatches 0;

Db 71 dicadpkkkvvq 82
 |||||
 QY 1 DICADPKKKVQ 12

RESULT 3

ID W10099 standard; Protein; 97 AA.
 AC W10099;
 DT 30-SEP-1997 (first entry)
 DE Human eotaxin.
 KW Human; eotaxin; eosinophil; chemoattractant; stimulation;
 KW accumulation; attraction; chemotaxis; diagnosis; prevention;
 KW treatment; disease; inflammation; allergy; asthma; rhinitis;
 KW hypersensitivity; lung; pneumonia; Loeffler's; syndrome;
 KW interstitial; ILD; idiopathic pulmonary fibrosis;
 KW rheumatoid arthritis; systemic; lupus erythematosus; SLE;
 KW ankylosing spondylitis; sclerosis; Sjorgen's; polymyositis;
 KW dermatomyositis; bowel; anaphylaxis; drug; penicillin;
 KW cephalosporin; insect sting; Crohn's; ulcerative colitis;
 KW spondyloarthropathy; scleroderma; psoriasis; dermatosis;
 KW dermatitis; eczema; atopic; urticaria; necrotizing; cutaneous;
 KW vasculitis; myositis; fascitis; multiple sclerosis;
 KW myasthenia gravis; juvenile onset diabetes; glomerulonephritis;
 KW autoimmune; thyroiditis; Bechet's; graft; rejection;
 KW transplantation; allograft; graft versus host; cancer;
 KW leukocyte infiltration; reperfusion injury; atherosclerosis;
 KW haematologic malignancy; septic; endotoxin; shock;
 KW polymyositis; dermatomyositis; immunosuppression; immunodeficiency;
 KW AIDS; radiation therapy; chemotherapy; autoimmune; corticosteroid;
 KW infection.
 OS Homo sapiens.
 PN W09700960-A1.
 PD 09-JAN-1997.
 PF 21-JUN-1996; U10723.

PR 23-JUN-1995; US-494093.
 PA (LEUK-) LEUKOSITE INC.
 PI Mackay C, Newman W, Ponath PD, Qin S, Ringler DU;
 DR WPI; 97-087387/08.
 DR N-PSDB: T58777.
 PT New isolated human eotaxin gene - used to develop prods. for the
 diagnosis and treatment of e.g. inflammation, allergies, auto-immune
 PT disease, infections and tumours
 PS Claim 3; Pages 95-96; 130pp; English.
 CC The present sequence is human eotaxin (hE), an eosinophil
 CC specific chemoattractant capable of stimulating eosinophil
 CC accumulation and/or attracting eosinophils (including chemotaxis).
 CC It can be used to develop products for the diagnosis, prevention or
 CC treatment of HE associated diseases or conditions. The products can
 CC be used to treat inflammatory or allergic diseases and conditions,
 CC including respiratory allergic diseases (e.g. asthma, allergic
 CC rhinitis, hypersensitivity lung diseases or pneumonitis,
 CC eosinophilic pneumonias such as Loeffler's syndrome and chronic
 CC eosinophilic pneumonia, interstitial lung diseases (ILD) such as
 CC idiopathic pulmonary fibrosis or ILD associated with rheumatoid
 CC arthritis, systemic lupus erythematosus (SLE), ankylosing
 CC spondylitis, systemic sclerosis, Sjorgen's syndrome, polymyositis
 CC or dermatomyositis), systemic anaphylaxis or hypersensitivity
 CC responses, drug allergies (e.g. to penicillin and cephalosporins),
 CC insect sting allergies, inflammatory bowel diseases (e.g. Crohn's
 CC disease and ulcerative colitis), spondyloarthropathies,
 CC scleroderma, psoriasis and inflammatory dermatoses (e.g.
 CC dermatitis, eczema, atopic dermatitis, allergic contact dermatitis,
 CC urticaria and necrotizing, cutaneous and hypersensitivity
 CC vasculitis), eosinophilic myositis and fascitis, multiple
 CC sclerosis, SLE, myasthenia gravis, juvenile onset diabetes,
 CC glomerulonephritis, autoimmune thyroiditis, Bechet's disease, graft
 CC rejection (e.g. in transplantation) including allograft rejection or
 CC graft versus host disease and cancers with leukocyte infiltration
 CC of the skin or organs. The products can also be used to treat other
 CC diseases or conditions requiring the inhibition of undesirable
 CC inflammatory responses, including reperfusion injury, cytokine
 CC atherosclerosis, certain haematologic malignancies, cytokine
 CC induced toxicity (e.g. septic or endotoxic shock), polymyositis,
 CC dermatomyositis, immunosuppression (e.g. in individuals with
 CC immunodeficiency syndromes such as AIDS, undergoing radiation
 CC therapy, chemotherapy, therapy for autoimmune disease or other drug
 CC therapy, such as corticosteroid therapy, which causes
 CC immunosuppression), immunosuppression due to (e.g. congenital)
 CC deficiency (e.g. in eotaxin) or infectious diseases such as parasitic
 CC diseases.
 CC Degenerate primers based on the guinea pig eotaxin amino acid
 CC sequence were used for the reverse transcriptase polymerase chain
 CC reaction (RT-PCR) amplification of RNA isolated from inflamed,
 CC eosinophilic lung tissue obtained from Balb/c mice sensitised to
 CC ovalbumin. The amplification product was used as a probe to screen
 CC a human genomic library in vector EMBL3 SP6/T7 to obtain the hE
 CC gene.

SQ Sequence 97 AA;

Query Match 100.0%; Score 97; DB 23; Length 97;

Best Local Similarity 100.0%; Pred. No. 8.92e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 71 dicadpkkkvvq 82
 |||||
 QY 1 DICADPKKKVQ 12

RESULT 4

ID W14990 standard; Protein; 97 AA.
 AC W14990;
 DT 01-DEC-1997 (first entry)
 DE Human eosinocyte CC type chemokine eotaxin.
 KW Human; eosinocyte; CC type; chemokine; eotaxin; calcium; skin;
 KW small intestine; agonist; screening; asthma; allergy; atopic.
 KW antibody; diagnosis; assay; disorder; asthma; allergy; atopic.
 OS Homo sapiens.

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PN WO9712914-A1.
PD 10-APR-1997.
PF 01-OCT-1996; J02851.
PR 28-FEB-1996; JP-041965.
PR 05-OCT-1995; JP-259067.
PA (SHIO ) SHIONOGI & CO LTD.
PI Harada S., Kitaura M., Nakajima T;
DR WPI; 97-226168/20.
DR N-PSDB; T62944.
PT Human CC chemokine (eotaxin) active on eosinocytes - useful for
PT screening for eotaxin (antagonist(s), e.g. for treating
PT inflammation
PS Claim 2; Pages 27-28; 45pp; Japanese.
CC The present sequence is the human eosinocyte, CC type
CC chemokine, eotaxin, which increases calcium flux in human
CC eosinocytes and is a human analogue of guinea pig eotaxin. The
CC eotaxin was derived from human small intestine, and is a specific
CC agonist for human CC type chemokine receptor 3. It may be used to
CC screen potential agonists and antagonists, which may be useful as
CC anti-inflammatory. An anti-eotaxin antibody may be used in
CC diagnostic assays for eotaxin, which is implicated in inflammatory
CC disorders, e.g. asthma, other allergies and atopic skin
CC inflammation.
SQ Sequence 97 AA;

Query Match          100.0%; Score 97; DB 24; Length 97;
Best Local Similarity 100.0%; Pred. No. 8.92e-03;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 71 dicadpkkkwwq 82
   |||||
Qy 1 DICADPKKKWQ 12

RESULT 5
ID R70252 standard; protein; 73 AA.
AC R70252;
DE Eotaxin chemoattractant protein.
KW Eotaxin; chemoattractant; inflammatory disease; inflammation;
KW asthma; rhinitis; eczema; macrophage; lymphocyte; neutrophil;
KW mast cell; connective tissue cell; vascular endothelial cell;
KW eosinophil.
OS Cavia cobaya.
PN WO9507985-A.
PD 23-MAR-1995.
PF 14-SEP-1994; G02006.
PR 14-SEP-1993; GB-018984.
PR 29-APR-1994; GB-008602.
PA (LUDW-) LUDWIG INST CANCER RES.
PA (NAHE-) NAT HEART & LUNG INST.
PI Griffiths-Johnson DA, Hsuan JJ, Jose PJ, Williams TJ;
DR WPI; 95-131353/17.
PT Isolated chemoattractant protein, termed eotaxin - useful for
PT treating asthma and other inflammatory diseases
PS Claim 6; Page 31; 50pp; English.
CC Eotaxin is useful for treatment of asthma or other diseases with an
CC inflammatory component, especially accumulation of eosinophils, e.g.
CC rhinitis or eczema. Eotaxin is obtainable from bronchoalveolar
CC lavage fluid of a subject after antigen challenge; from an
CC inflammatory exudate fluid or from an in vitro culture of
CC macrophages, lymphocytes, neutrophils, mast cells, airway cells,
CC connective tissue cells, vascular endothelial cells or eosinophils.
SQ Sequence 73 AA;

Query Match          93.8%; Score 91; DB 13; Length 73;
Best Local Similarity 100.0%; Pred. No. 3.75e-02;
Matches 11; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 48 icadpkkkwwq 58
   |||||
Qy 2 ICADPKKKWQ 12

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RESULT 6
ID W14991 standard; Protein; 96 AA.
AC W14991;
DE Guinea pig eosinocyte CC type chemokine eotaxin.
KW Guinea pig; eosinocyte; CC type; chemokine; eotaxin; calcium; skin;
KW small intestine; agonist; screening; antagonist; inflammation;
KW antibody; diagnosis; assay; disorder; asthma; allergy; atopic.
OS Cavia cobaya.
PN WO9712914-A1.
PD 10-APR-1997.
PF 01-OCT-1996; J02851.
PR 28-FEB-1996; JP-041965.
PR 05-OCT-1995; JP-259067.
PA (SHIO ) SHIONOGI & CO LTD.
PI Harada S., Kitaura M., Nakajima T;
DR WPI; 97-226168/20.
DR N-PSDB; T62945.
PT Human CC chemokine (eotaxin) active on eosinocytes - useful for
PT screening for eotaxin (antagonist(s), e.g. for treating
PT inflammation
PS Example 2; Pages 30-31; 45pp; Japanese.
CC The present sequence is the guinea pig eosinocyte, CC type
CC chemokine, eotaxin, which increases calcium flux in guinea pig
CC eosinocytes. The eotaxin may be used to screen potential
CC agonists and antagonists, which may be useful as
CC anti-inflammatories. An anti-eotaxin antibody may be used in
CC diagnostic assays for eotaxin, which is implicated in inflammatory
CC disorders, e.g. asthma, other allergies and atopic skin
CC inflammation.
SQ Sequence 96 AA;

Query Match          93.8%; Score 91; DB 24; Length 96;
Best Local Similarity 100.0%; Pred. No. 3.75e-02;
Matches 11; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 71 icadpkkkwwq 81
   |||||
Qy 2 ICADPKKKWQ 12

RESULT 7
ID W13598 standard; peptide; 66 AA.
AC W13598;
DE Monocyte chemoattractant protein analogue MCP-1 (10-76).
KW Truncated monocyte chemoattractant protein-1; inhibitor;
KW receptor binding; anti inflammatory; basophil; lymphocyte; allergy;
KW chronic inflammatory disease; arthritis; arteriosclerosis;
KW lung disease.
OS Homo sapiens.
PN CA2152141-A.
PD 20-DEC-1996.
PF 19-JUN-1995; 152141.
PR 19-JUN-1995; CA-152141.
PA (LEWIS) LEWIS I.
PI Gong J, Lewis I;
DR WPI; 97-155844/16.
PT N-terminally truncated monocyte chemoattractant protein-1 (MCP-1) -
PT lacks MCP-1 activity and inhibits receptor binding, useful as
PT anti-inflammatory agent
PS Disclosure; Page 5; 27pp; English.
CC The present sequence represents an analogue, MCP-1 (10-76), of monocyte
CC chemoattractant protein-1 (MCP-1). The analogue, which lacks the
CC N-terminal amino acids 1-9 of MCP-1, acts as an antagonist of MCP-1
CC as it lacks MCP-1 biological activity and inhibits binding to a MCP-1
CC receptor. The analogue is useful as an anti-inflammatory agent to block
CC the effects of MCP-1 which is an inflammatory mediator causing migration
CC of monocytes and other cells e.g. basophils and lymphocytes into
CC inflammation sites. MCP-1 has been implicated in allergic and chronic
CC inflammatory diseases e.g. arthritis, arteriosclerosis and several lung
CC diseases. The analogue competes more effectively with MCP-1 for binding

```

CC MCP-1 receptors than prior art mutant versions of MCP-1 e.g. preferably
 CC providing 50% inhibition of binding at a 25:1 ratio or less, compared
 CC with 75:1 for prior art mutant 7ND.
 SQ Sequence 66 AA;

Query Match 91.8%; Score 89; DB 24; Length 66;
 Best Local Similarity 83.3%; Pred. No. 6.04e-02;
 Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 40 eicadpkqkvwq 51
 :||||| ||||
 QY 1 DICADPKKKWQ 12

RESULT 8

ID W13599 standard; peptide; 67 AA.
 AC W13599;
 DT 07-NOV-1997 (first entry)
 DE Monocyte chemoattractant protein analogue MCP-1 (11-76).
 KW Truncated monocyte chemoattractant protein-1; inhibitor;
 KW receptor binding; anti-inflammatory; basophil; lymphocyte; allergy;
 KW chronic inflammatory disease; arthritis; arteriosclerosis;
 KW lung disease.
 OS Homo sapiens.
 PN CA2152141-A.
 PD 20-DEC-1996.
 PF 19-JUN-1995; 152141.
 PR 19-JUN-1995; CA-152141.
 PA (LEWI/) LEWIS I.
 PI Gong J, Lewis I.
 DI WPI: 97-165844/16.
 PT N-terminally truncated monocyte chemoattractant protein-1 (MCP-1) -
 PT lacks MCP-1 activity and inhibits receptor binding, useful as
 PT anti-inflammatory agent
 PS Disclosure; Page 5; 27pp; English.
 CC The present sequence represents an analogue, MCP-1 (11-76), of monocyte
 CC chemoattractant protein-1 (MCP-1). The analogue, which lacks the
 CC N-terminal amino acids 1-10 of MCP-1, acts as an antagonist of MCP-1
 CC as it lacks MCP-1 biological activity and inhibits binding to a MCP-1
 CC receptor. The analogue is useful as an anti-inflammatory agent to block
 CC the effects of MCP-1 which is an inflammatory mediator causing migration
 CC of monocytes and other cells e.g. basophils and lymphocytes into
 CC inflammatory sites. MCP-1 has been implicated in allergic and chronic
 CC inflammatory diseases e.g. arthritis, arteriosclerosis and several lung
 CC diseases. The analogue competes more effectively with MCP-1 for binding
 CC MCP-1 receptors than prior art mutant versions of MCP-1 e.g. preferably
 CC providing 50% inhibition of binding at a 25:1 ratio or less, compared
 CC with 75:1 for prior art mutant 7ND.
 SQ Sequence 67 AA;

Query Match 91.8%; Score 89; DB 24; Length 67;
 Best Local Similarity 83.3%; Pred. No. 6.04e-02;
 Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 41 eicadpkqkvwq 52
 :||||| ||||
 QY 1 DICADPKKKWQ 12

RESULT 9

ID W13597 standard; peptide; 68 AA.
 AC W13597;
 DT 07-NOV-1997 (first entry)
 DE Monocyte chemoattractant protein analogue MCP-1 (9-76).
 KW Truncated monocyte chemoattractant protein-1; inhibitor;
 KW receptor binding; anti-inflammatory; basophil; lymphocyte; allergy;
 KW chronic inflammatory disease; arthritis; arteriosclerosis;
 KW lung disease.
 OS Homo sapiens.
 PN CA2152141-A.
 PD 20-DEC-1996.
 PF 19-JUN-1995; 152141.
 PR 19-JUN-1995; CA-152141.

PA (LEWI/) LEWIS I.
 PI Gong J, Lewis I.
 DI WPI: 97-165844/16.
 PT N-terminally truncated monocyte chemoattractant protein-1 (MCP-1) -
 PT lacks MCP-1 activity and inhibits receptor binding, useful as
 PT anti-inflammatory agent
 PS Claim 7; Page 5; 27pp; English.
 CC The present sequence represents an analogue, MCP-1 (9-76), of monocyte
 CC chemoattractant protein-1 (MCP-1). The analogue, which lacks the
 CC N-terminal amino acids 1-8 of MCP-1, acts as an antagonist of MCP-1
 CC as it lacks MCP-1 biological activity and inhibits binding to a MCP-1
 CC receptor. The analogue is useful as an anti-inflammatory agent to block
 CC the effects of MCP-1 which is an inflammatory mediator causing migration
 CC of monocytes and other cells e.g. basophils and lymphocytes into
 CC inflammation sites. MCP-1 has been implicated in allergic and chronic
 CC inflammatory diseases e.g. arthritis, arteriosclerosis and several lung
 CC diseases. The analogue competes more effectively with MCP-1 for binding
 CC MCP-1 receptors than prior art mutant versions of MCP-1 e.g. preferably
 CC providing 50% inhibition of binding at a 25:1 ratio or less, compared
 CC with 75:1 for prior art mutant 7ND.
 SQ Sequence 68 AA;

Query Match 91.8%; Score 89; DB 24; Length 68;
 Best Local Similarity 83.3%; Pred. No. 6.04e-02;
 Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 42 eicadpkqkvwq 53
 :||||| ||||
 QY 1 DICADPKKKWQ 12

RESULT 10

ID R87678 standard; protein; 69 AA.
 AC R87678;
 DT 21-FEB-1996 (first entry)
 DE des(2-8) MCP-1.
 KW monocyte chemoattractant protein; MCP-1; mutant; restenosis;
 KW angioplasty.
 OS Homo sapiens.
 FH Key Location/Qualifiers
 FT modified_site 2..3
 FT /note= "amino acids 2-8 of the native protein have
 FT been deleted between these residues"
 FT disulfide_bond 4..29
 FT disulfide_bond 5..45
 FN W09513295-A1.
 PD 18-MAY-1995.
 PF 07-NOV-1994; U12874.
 PR 12-NOV-1993; US-152301.
 PA (DAND) DANA FARBER CANCER INST INC.
 PI Rollins B, Zhang Yu;
 DI WPI: 95-215051/28.
 PT Human monocyte chemo-attractant protein-1 (MCP-1) derivs. - are
 PT capable of inhibiting the monocyte chemo-attractant activity of
 PT endogenous MCP-1 and can be used to treat restenosis
 PS Claim 4; Page 11; 22pp; English.
 CC Monocyte chemoattractant protein-1 (MCP-1) derivatives are mutated such
 CC that they inhibit the monocyte chemoattractant activity of endogenous
 CC MCP-1, provided that the derivative has not been modified by the
 CC substitution of 28-Tyr by Leu and/or 30-Arg by Val. Preferred mutations
 CC are: (1) substitution of 28 Tyr by aspartate; (2) substitution of 24 Arg
 CC by Phe; (3) substitution of 3-Asp by Ala; and/or (4) deletion of amino
 CC acids 2-8. The present sequence is a specifically claimed human MCP-1
 CC derivative based on the parent protein disclosed in Rollins, Molecular
 CC and Cellular Biology, Vol. 9, No. 11, pp. 4687-4695, Nov. 1989.
 CC The peptides can be used to prevent restenosis, e.g. in patients
 CC undergoing coronary artery angioplasty.
 SQ Sequence 69 AA;

Query Match 91.8%; Score 89; DB 14; Length 69;
 Best Local Similarity 83.3%; Pred. No. 6.04e-02;
 Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;


```

Db 43 eicadpkqkvwq 54
QY 1 DICADPKKKWVQ 12

RESULT 11
ID W13596 standard; peptide; 69 AA.
AC W13596;
DE 07-NOV-1997 (first entry)
DE Monocyte chemoattractant protein analogue MCP-1 (8-76).
KW Truncated monocyte chemoattractant protein-1; inhibitor;
KW receptor binding; anti inflammatory; basophil; lymphocyte; allergy;
KW chronic inflammatory disease; arthritis; arteriosclerosis;
KW lung disease.
OS Homo sapiens.
PN CA2152141-A.
PD 20-DEC-1996.
PF 19-JUN-1995; 152141.
PR 19-JUN-1995; CA-152141.
PA (LEWIS/) LEWIS I.
PI Gong J, Lewis I;
DR WPI: 97-165844/16.
PT N-terminally truncated monocyte chemoattractant protein-1 (MCP-1) -
PT lacks MCP-1 activity and inhibits receptor binding, useful as
PT anti-inflammatory agent.
PS Claim 5; Page 5; 27pp; English.
CC The present sequence represents an analogue, MCP-1 (8-76), of monocyte
CC chemoattractant protein-1 (MCP-1). The analogue, which lacks the
CC N-terminal amino acids 1-7 of MCP-1, acts as an antagonist of MCP-1
CC as it lacks MCP-1 biological activity and inhibits binding to a MCP-1
CC receptor. The analogue is useful as an anti-inflammatory agent to block
CC the effects of MCP-1 which is an inflammatory mediator causing migration
CC of monocytes and other cells e.g. basophils and lymphocytes into
CC inflammation sites. MCP-1 has been implicated in allergic and chronic
CC inflammatory diseases e.g. arthritis, arteriosclerosis and several lung
CC diseases. The analogue competes more effectively with MCP-1 for binding
CC MCP-1 receptors than prior art mutant versions of MCP-1 e.g. preferably
CC providing 50% inhibition of binding at a 25:1 ratio or less, compared
CC with 75:1 for prior art mutant 7ND.
SQ Sequence 69 AA;

Query Match 91.8%; Score 89; DB 24; Length 69;
Best Local Similarity 83.3%; Pred. No. 6.04e-02;
Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 43 eicadpkqkvwq 54
QY 1 DICADPKKKWVQ 12

RESULT 12
ID W40175 standard; Protein; 76 AA.
AC W40175;
DE 01-JUL-1998 (first entry)
DE Macrophage chemoattractant peptide designated GDCF-2.
KW Monocyte chemoattractant peptide; MCP; MCP-1; treatment; neoplasm;
KW infection; human; monocyte receptor; chemotactic response; inflammation;
KW monocyte infiltration.
OS Homo sapiens.
PN (USSH ) US DEPT HEALTH & HUMAN SERVICES.
PI Appella E, Leonard EJ, Robinson EA, Yoshimura T;
DR WPI: 98-129909/12.
PT Peptide with chemotactic activity for monocytes - from human
PT monocytes or glioma cells, useful for treating infections and
PT neoplasms

Query Match 91.8%; Score 89; DB 24; Length 69;
Best Local Similarity 83.3%; Pred. No. 6.04e-02;
Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 43 eicadpkqkvwq 54
QY 1 DICADPKKKWVQ 12

RESULT 13
ID R87677 standard; protein; 76 AA.
AC R87677;
DE 21-FEB-1996 (first entry)
DE (3-Ala) MCP-1.
KW monocyte chemoattractant protein; MCP-1; mutant; restenosis;
KW angioplasty.
OS Homo sapiens.
PN W09513295-A1.
PD 18-MAY-1995.
PF 07-NOV-1994; U12874.
PR 12-NOV-1993; US-152301.
PA (DAND ) DANA FARMER CANCER INST INC.
PI Rollins B, Zhang YJ;
DR WPI: 95-215051/28.
PT Human monocyte chemo-attractant protein-1 (MCP-1) derivs. - are
PT capable of inhibiting the monocyte chemo-attractant activity of
PT endogenous MCP-1 and can be used to treat restenosis
PS Claim 6; Page 11; 22pp; English.
CC Monocyte chemoattractant protein-1 (MCP-1) derivatives are mutated such
CC that they inhibit the monocyte chemoattractant activity of endogenous
CC MCP-1, provided that the derivative has not been modified by the
CC substitution of 28-Tyr by Leu and/or 30-Arg by Val. Preferred mutations
CC are: (1) substitution of 28 Tyr by aspartate; (2) substitution of 24 Arg
CC by Phe; (3) substitution of 3-Asp by Ala; and/or (4) deletion of amino
CC acids 2-8. The present sequence is a specifically claimed human MCP-1
CC derivative based on the parent protein disclosed in Rollins, Molecular
CC and Cellular Biology, Vol. 9, No. 11, pp. 4687-4695, Nov. 1989.
CC The peptides can be used to prevent restenosis, e.g. in patients
CC undergoing coronary artery angioplasty.
SQ Sequence 76 AA;

Query Match 91.8%; Score 89; DB 14; Length 76;
Best Local Similarity 83.3%; Pred. No. 6.04e-02;
Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 50 eicadpkqkvwq 61
QY 1 DICADPKKKWVQ 12

RESULT 14
ID W09374 standard; Protein; 76 AA.
AC W09374;
DE 21-MAR-1997 (first entry)
DE Monocyte chemotactic protein 1.
KW Human; monocyte chemoattractant protein; antisenesc; inhibition;
KW mononuclear cell; lymphocyte; macrophage; smooth muscle cell;

```

KW vascular restenosis.
 OS Homo sapiens.
 FH Key Location/Qualifiers
 FT misc_difference 1 /note= "encoded by codon CAG"
 FT misc_difference 51 /note= "encoded by codon AUG"
 FT misc_difference 65 /note= "encoded by codon CAC"
 FT US5571713-A.
 PD 05-NOV-1996.
 PF 22-OCT-1992; 965678.
 PR 22-OCT-1992; US-965678.
 PR 27-MAY-1994; US-250958.
 PA (UNMI) UNIV MICHIGAN.
 PI Kunkel SL, Lyle LR, Strieter RM;
 DR WPI; 96-505405/50.
 DR N-PSDB; T48092.
 PT Anti-sense Monocyte Chemotactic Protein-1 oligonucleotide(s) -
 PT useful for therapy or diagnosis of restenosis, etc.
 PS Disclosure; Column 13-14; 16pp; English.
 CC This is the amino acid sequence of the human monocyte chemoattractant
 CC protein (MCP)-1, a member of the C-C chemokine family. MCP-1 is a potent
 CC stimulator of monocyte chemotaxis and is produced by injured vascular
 CC smooth cells thus attracting monocytes and macrophages which infiltrate
 CC the injured area and release growth factor. This causes proliferation of
 CC the vascular smooth cells resulting in restenosis. The gene sequence can
 CC be used to generate antisense sequences e.g. T48093-7, which can be used
 CC to inhibit in vitro MCP-1 prodn. by mononuclear cells e.g. lymphocytes or
 CC macrophages, or smooth muscle cells, esp. in order to prevent vascular
 CC restenosis.
 SQ Sequence 76 AA;

Query Match 91.8%; Score 89; DB 20; Length 76;
 Best Local Similarity 83.3%; Pred. No. 6.04e-02;
 Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 50 eicadpkqkvwq 61
 :|||||
 QY 1 DICADPKKKWQ 12

RESULT 15
 ID R87676 standard; protein; 76 AA.
 AC R87676;
 DT 21-FEB-1996 (first entry)
 DE (24-Arg) MCP-1.
 KW monocyte chemoattractant protein; MCP-1; mutant; restenosis;
 KW angioplasty.
 OS Homo sapiens.
 FH Key Location/Qualifiers
 FT modified_site 24 /note= "Arg in the native sequence is replaced by Phe"
 FT disulfide_bond 11..36
 FT disulfide_bond 12..52
 FN W09513295-Al.
 PD 18-MAY-1995.
 PF 07-NOV-1994; U12874.
 PR 12-NOV-1993; US-152301.
 PA (DAND) DANA FARBER CANCER INST INC.
 PI Rollins B, Zhang YJ;
 DR WPI; 95-215051/28.
 PT Human monocyte chemo-attractant protein-1 (MCP-1) derivs. - are
 PT capable of inhibiting the monocyte chemo-attractant activity of
 PT endogenous MCP-1 and can be used to treat restenosis
 PS Claim 5; Page 11; 22pp; English.
 CC Monocyte chemoattractant protein-1 (MCP-1) derivatives are mutated such
 CC that they inhibit the monocyte chemoattractant activity of endogenous
 CC MCP-1, provided that the derivative has not been modified by the
 CC substitution of 28-Tyr by Leu and/or 30-Arg by Val. Preferred mutations
 CC are: (1) substitution of 28 Tyr by aspartate; (2) substitution of 24 Arg
 CC by Phe; (3) substitution of 3-Asp by Ala; and/or (4) deletion of amino
 CC acids 2-8. The present sequence is a specifically claimed human MCP-1

CC derivative based on the parent protein disclosed in Rollins, Molecular
 CC and Cellular Biology, Vol. 9, No. 11, pp. 4687-4695, Nov. 1989.
 CC The peptides can be used to prevent restenosis, e.g. in patients
 CC undergoing coronary artery angioplasty.
 SQ Sequence 76 AA;

Query Match 91.8%; Score 89; DB 14; Length 76;
 Best Local Similarity 83.3%; Pred. No. 6.04e-02;
 Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 50 eicadpkqkvwq 61
 :|||||
 QY 1 DICADPKKKWQ 12

Search completed: Fri Feb 4 17:56:04 2000
 Job time : 18 secs.

 W I S E R L

 (TM)

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MPSrch_pp protein - protein database search, using Smith-Waterman algorithm
 Run on: Fri Feb 4 18:03:08 2000; MasPar time 2.53 Seconds
 Tabular output not generated. 134.084 Million cell updates/sec

Title: >US-09-150-813-72
 Description: (1-12) from U09150813.pep
 Perfect Score: 82
 Sequence: 1 KACLPASPIVK 12

Scoring table: PAM 150
 Gap 15

Searched: 77977 seqs, 28268293 residues

Post-processing: Minimum Match 0%
 Listing first 45 summaries

Database: swiss-prot37
 1:swissprot

Statistics: Mean 23.824; Variance 25.490; scale 0.935

Pred. No. is the number of results predicted by chance to have a
 score greater than or equal to the score of the result being printed,
 and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match | Length | DB ID | Description | Pred. No. |
|------------|-------|-------------|--------|-------|------------------------|-----------|
| 1 | 82 | 100.0 | 107 | 1 | GRO_HUMAN | 5.72e-09 |
| 2 | 77 | 93.9 | 107 | 1 | M12A_HUMAN | 1.65e-07 |
| 3 | 70 | 85.4 | 107 | 1 | M12B_HUMAN | 1.57e-05 |
| 4 | 65 | 79.3 | 104 | 1 | GRO2_RABIT | 3.59e-04 |
| 5 | 64 | 78.0 | 98 | 1 | GROB_BOVIN | 6.63e-04 |
| 6 | 62 | 75.6 | 104 | 1 | GROB_BOVIN | 2.23e-03 |
| 7 | 62 | 75.6 | 104 | 1 | GROB_BOVIN | 2.23e-03 |
| 8 | 59 | 72.0 | 132 | 1 | LIX_MOUSE | 1.32e-02 |
| 9 | 58 | 70.7 | 100 | 1 | MIP2_MOUSE | 2.35e-02 |
| 10 | 57 | 69.5 | 101 | 1 | GRO_CRIGR | 4.18e-02 |
| 11 | 57 | 69.5 | 119 | 1 | PF4L_PIG | 4.18e-02 |
| 12 | 57 | 69.5 | 119 | 1 | PF4L_PIG | 4.18e-02 |
| 13 | 56 | 68.3 | 128 | 1 | PF4L_HUMAN | 4.18e-02 |
| 14 | 56 | 68.3 | 130 | 1 | GCP2_BOVIN | 7.39e-02 |
| 15 | 56 | 68.3 | 130 | 1 | LIX_RAT | 7.39e-02 |
| 16 | 55 | 67.1 | 71 | 1 | CYTOKINE LIX PRECURSOR | 2.35e-02 |
| 17 | 55 | 67.1 | 96 | 1 | GRO1_RABIT | 1.30e-01 |
| 18 | 55 | 67.1 | 96 | 1 | GRO1_RAT | 1.30e-01 |
| 19 | 55 | 67.1 | 96 | 1 | GRO_MOUSE | 1.30e-01 |
| 20 | 53 | 64.6 | 100 | 1 | GRO_CAVPO | 3.92e-01 |
| 21 | 53 | 64.6 | 117 | 1 | MIP2_RAT | 3.92e-01 |
| 22 | 51 | 62.2 | 98 | 1 | ALVEOLAR MACROPHAGE CH | 1.15e-00 |
| 23 | 51 | 62.2 | 114 | 1 | MOB-1 PROTEIN PRECURSO | 1.15e-00 |
| | | | | | NEUTROPHIL ACTIVATING | 1.15e-00 |

ALIGNMENTS

| RESULT | 1 | STANDARD; | PRT; | 107 AA. |
|--------|--|-----------|------|---------|
| ID | GRO_HUMAN | | | |
| AC | P09341; | | | |
| DT | 01-MAR-1989 (REL. 10, CREATED) | | | |
| DT | 01-MAR-1989 (REL. 10, LAST SEQUENCE UPDATE) | | | |
| DT | 01-NOV-1997 (REL. 35, LAST ANNOTATION UPDATE) | | | |
| DE | GROWTH REGULATED PROTEIN PRECURSOR (MELANOMA GROWTH STIMULATORY | | | |
| DE | ACTIVITY) (MGSA) (NEUTROPHIL-ACTIVATING PROTEIN 3) (NAP-3). | | | |
| GN | GRO1 OR GROA OR GRO OR MGSA. | | | |
| OS | HOMO SAPIENS (HUMAN). | | | |
| OC | EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; | | | |
| OC | PRIMATES; CATARRHINI; HOMINIDAE; HOMO. | | | |
| RN | [1] | | | |
| RP | SEQUENCE FROM N.A. | | | |
| RX | MEDLINE; 88041072. | | | |
| RA | ANISOWICZ A., BARDEWELL L., SAGER R.; | | | |
| RT | "Constitutive overexpression of a growth-regulated gene in | | | |
| RT | transformed Chinese hamster and human cells"; | | | |
| RL | PROC. NATL. ACAD. SCI. U.S.A. 84:7188-7192(1987). | | | |
| RN | [2] | | | |
| RP | SEQUENCE FROM N.A. | | | |
| RX | MEDLINE; 88328991. | | | |
| RA | RICHMOND A., BALENTIEN E., THOMAS H.G., FLAGGS G., BARTON D.E., | | | |
| RA | SPIESS J., BORDONI R., FRANCKE U., DERYNCK R.; | | | |
| RT | "Molecular characterization and chromosomal mapping of melanoma | | | |
| RT | growth stimulatory activity, a growth factor structurally related to | | | |
| RL | beta-thromboglobulin"; | | | |
| RL | EMBO J. 7:2025-2033(1988). | | | |
| RN | [3] | | | |
| RP | SEQUENCE FROM N.A. | | | |
| RC | TISSUE=BLOOD; | | | |
| RX | MEDLINE; 91057157. | | | |
| RA | BAKER N.E., KUCERA G., RICHMOND A.; | | | |
| RT | "Nucleotide sequence of the human melanoma growth stimulatory | | | |
| RT | activity (MGSA) gene"; | | | |
| RL | NUCLEIC ACIDS RES. 18:6453-6453(1990). | | | |
| RN | [4] | | | |
| RP | SEQUENCE OF 35-65. | | | |
| RX | MEDLINE; 90217938. | | | |
| RA | SCHROEDER J.-M., PERSSON N.L.M., CHRISTOPHERS E.; | | | |
| RT | "Lipopolysaccharide-stimulated human monocytes secrete, apart from | | | |
| RT | neutrophil-activating peptide 1/interleukin 8, a second neutrophil- | | | |
| RT | activating protein, NH2-terminal amino acid sequence identity with | | | |
| RL | J. EXP. MED. 171:1091-1100(1990). | | | |
| RN | [5] | | | |
| RP | SEQUENCE OF 35-57. | | | |

GRANULOCYTE CHEMOTACTI 1.15e+00
 GAMMA INTERFERON INDUC 1.15e+00
 UDP-N-ACETYLURAMATE-- 1.15e+00
 INTERFERON-GAMMA INDUC 1.95e+00
 GAMMA INTERFERON INDUC 1.95e+00
 VITAMIN D-BINDING PROT 1.95e+00
 1,4-ALPHA-GLUCAN BRANC 1.95e+00
 3-HYDROXY-3-METHYLGLUT 1.95e+00
 NEGATIVE REGULATOR OF 1.95e+00
 TUBULIN ALPHA CHAIN (F 3.28e+00
 TUBULIN ALPHA CHAIN 3.28e+00
 TUBULIN ALPHA-2 CHAIN. 3.28e+00
 TUBULIN ALPHA-3 CHAIN. 3.28e+00
 TUBULIN ALPHA CHAIN, T 3.28e+00
 TUBULIN ALPHA-3 AND AL 3.28e+00
 TUBULIN ALPHA CHAIN. 3.28e+00
 TUBULIN ALPHA-2 CHAIN. 3.28e+00
 TUBULIN ALPHA CHAIN (A 3.28e+00
 HYPOTHETICAL 52.9 KD P 3.28e+00
 GAG POLYPROTEIN [CONTA 3.28e+00
 GAG POLYPROTEIN [CONTA 3.28e+00

RX MEDLINE; 89246368.
RA GOLDS E.E., MASON P., NYIRKOS P.;
RT "Inflammatory cytokines induce synthesis and secretion of gro protein
and a neutrophil chemotactic factor but not beta 2-microglobulin in
human synovial cells and fibroblasts";
RL BIOCHEM. J. 259:585-588(1989).
RN [16]
RP POSSIBLE FUNCTION.
RX MEDLINE; 89356650.
RA WEN D., ROWLAND A., DERYNCK R.;
RT "Expression and secretion of gro/MGSA by stimulated human endothelial
cells";
RL EMBO J. 8:1761-1766(1989).
RN [7]
RP STRUCTURE BY NMR.
RX MEDLINE; 93387459.
RA FAIRBROTHER W.J., REILLY D., COLBY T., HORUK R.;
RT "1H assignment and secondary structure determination of human
melanoma growth stimulating activity (MGSA) by NMR spectroscopy";
RL FEBS LETT. 330:302-306(1993).
RN [8]
RP STRUCTURE BY NMR.
RX MEDLINE; 94376296.
RA FAIRBROTHER W.J., REILLY D., COLBY T., HESSELGESSER J., HORUK R.;
RT "The solution structure of melanoma growth stimulating activity";
RL J. MOL. BIOL. 242:252-270(1994).
RN [9]
RP STRUCTURE BY NMR.
RX MEDLINE; 95105175.
RA KIM K.S., CLARK-LEWIS I., SYKES B.D.;
RT "Solution structure of GRO/melanoma growth stimulatory activity
determined by 1H NMR spectroscopy";
RL J. BIOL. CHEM. 269:32909-32915(1994).
RN [10]
RP FUNCTION: HAS CHEMOTACTIC ACTIVITY FOR NEUTROPHILS. MAY PLAY A
ROLE IN INFLAMMATION AND EXERTS ITS EFFECTS ON ENDOTHELIAL CELLS
IN AN AUTOCRINE FASHION.
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
C-X-C) (CHEMOKINE CXCL).
CC
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CC
CC EMBL; J03561; G306806; -
CC EMBL; X12510; G34622; -
CC EMBL; X34489; G34626; -
CC PIR; A28414; A28414.
CC PIR; S00983; S00983.
CC PIR; S03976; S03976.
CC PIR; S13669; S13669.
CC PDB; 1MGS; 30-SEP-94.
CC PDB; 1MSG; 31-MAR-95.
CC PDB; 1MSH; 31-MAR-95.
CC PDB; 155730; -
CC PIR; PS00471; SMALL_CYTOKINES_CXC; 1.
CC PIR; PF00048; i18; 1.
CC CYTOKINE; GROWTH FACTOR; INFLAMMATORY RESPONSE; SIGNAL; 3D-STRUCTURE.
FT SIGNAL 1 34
FT CHAIN 35 107 GRO PROTEIN.
FT DISULFID 43 69
FT DISULFID 45 85
SQ SEQUENCE 107 AA; 11301 MW; 4DEE921B CRC32;

Query Match 100.0%; Score 82; DB 1; Length 107;
Best Local Similarity 100.0%; Pred. No. 5.72e-09;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Db 83 KACLNPA5PIVK 94
|||||||

QY 1 KACLNPA5PIVK 12
RESULT 2
ID M12A_HUMAN STANDARD; PRT; 107 AA.
AC P19875;
DT 01-FEB-1991 (REL. 17, CREATED)
DT 01-FEB-1991 (REL. 17, LAST SEQUENCE UPDATE)
DE MACROPHAGE INFLAMMATORY PROTEIN-2-ALPHA PRECURSOR (MIP2-ALPHA) (GROWTH
REGULATED PROTEIN BETA) (GRO-BETA).
GN GRO2 OR GROB OR MIP2A.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC PRIMATES; CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE-HISTIOCYTIC LYMPHOMA;
RX MEDLINE; 90354792.
RA TEKAMP-OLSON P., GALLEGOS C., BAUER D., MCCLAIN J., SHERRY B.,
RA FABRE M., VAN DEVENTER S., CERAMI A.;
RT "Cloning and characterization of cDNAs for murine macrophage
inflammatory protein 2 and its human homologues";
RL J. EXP. MED. 172:911-919(1990).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE; 90377259.
RA IIDA N., GROTEENDORST G.R.;
RT "Cloning and sequencing of a new gro transcript from activated human
monocytes: expression in leukocytes and wound tissue";
RL MOL. CELL. BIOL. 10:5596-5599(1990).
RN [3]
RP SEQUENCE FROM N.A.
RX MEDLINE; 91017578.
RA HASKILL S., PEACE A., MORRIS J., SPORN S.A., ANISOWICZ A., LEE S.W.,
RA SMITH T., MARTIN G., RALPH P., SAGER R.;
RT "Identification of three related human GRO genes encoding cytokine
functions";
RL PROC. NATL. ACAD. SCI. U.S.A. 87:7732-7736(1990).
CC -!- FUNCTION: PRODUCED BY ACTIVATED MONOCYTES AND NEUTROPHILS AND
EXPRESSED AT SITES OF INFLAMMATION.
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
C-X-C) (CHEMOKINE CXCL).
CC
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or send an email to license@isb-sib.ch).
CC
CC EMBL; X53799; G34659; -
CC EMBL; M36820; G183629; -
CC EMBL; M57731; G183627; -
CC PIR; JH0281; JH0281.
CC PIR; 139110; -
CC PIR; PS00471; SMALL_CYTOKINES_CXC; 1.
CC PIR; PF00048; i18; 1.
CC PIR; PF00341; 1MGS.
CC CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.
FT SIGNAL 1 34
FT CHAIN 35 107 MACROPHAGE INFLAMMATORY PROTEIN
FT DISULFID 43 69 2-ALPHA.
FT DISULFID 45 85 BY SIMILARITY.
FT DISULFID 45 85 BY SIMILARITY.
SQ SEQUENCE 107 AA; 11389 MW; 6E431A15 CRC32;

Query Match 93.9%; Score 77; DB 1; Length 107;
Best Local Similarity 91.7%; Pred. No. 1.85e-07;
Matches 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
Db 83 KACLNPA5PIVK 94
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QY      1 KACLNPASPIVK 12
RESULT  3
ID      M12B_HUMAN      STANDARD;          PRT;    107 AA.
AC      P19876;
DT      01-FEB-1991 (REL. 17, CREATED)
DT      01-FEB-1991 (REL. 17, LAST SEQUENCE UPDATE)
DT      01-JUN-1994 (REL. 29, LAST ANNOTATION UPDATE)
DE      MACROPHAGE INFLAMMATORY PROTEIN-2-BETA PRECURSOR (MIP2-BETA) (GROWTH
GN      DE REGULATED PROTEIN GAMMA) (GRO-GAMMA).
OS      GRO3 OR GROG. (HUMAN).
OS      HOMO SAPIENS. (HUMAN).
OC      EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC      PRIMATES; CATARRHINI; HOMINIDAE; HOMO.
RN      [1]
RP      SEQUENCE FROM N.A.
RX      MEDLINE; 90354792.
RA      TEKAMP-OLSON P., GALLEGOS C., BAUER D., MCCLAIN J., SHERRY B.,
RA      FABRE M., VAN DEVENTER S., CERAMI A.;
RT      "Cloning and characterization of cDNAs for murine macrophage
RT      inflammatory protein 2 and its human homologues.";
RL      J. EXP. MED. 172:911-919(1990).
RN      [2]
RP      SEQUENCE FROM N.A.
RX      MEDLINE; 91017578.
RA      HASKILL S., PEACE A., MORRIS J., SPORN S.A., ANISOWICZ A., LEE S.W.,
RA      SMITH T., MARTIN G., RALPH P., SAGER R.;
RT      "Identification of three related human GRO genes encoding cytokine
RT      functions.";
RL      PROC. NATL. ACAD. SCI. U.S.A. 87:7732-7736(1990).
CC      -!- FUNCTION: MAY PLAY A ROLE IN INFLAMMATION AND EXERT ITS EFFECTS
CC      ON ENDOTHELIAL CELLS IN AN AUTOCRINE FASHION.
CC      -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
CC      C-X-C) (CHEMOKINE CXC).
CC      -----
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CC      entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC      or send an email to license@isb-sib.ch).
CC      -----
DR      EMBL; X53800; G34563; -.
DR      EMBL; M36821; G183633; -.
DR      PIR; B38290; B38290.
DR      PIR; J0282; J0282.
DR      MIM; J39111; -.
DR      PROSITE; P500471; SMALL_CYTOKINES_CXC; 1.
DR      PFAM; PF00048; i18; 1.
DR      HSSP; P09341; 1MGS.
KW      CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.
FT      SIGNAL      1      34
FT      CHAIN      35      107
FT      MACROPHAGE INFLAMMATORY PROTEIN
FT      2-BETA.
FT      DISULFID      43      69
FT      BY SIMILARITY.
FT      DISULFID      45      85
FT      BY SIMILARITY.
FT      CONFLICT      27      28
FT      AA -> G (IN REF. 2).
SQ      SEQUENCE 107 AA; 11342 MW; 6F2A63D2 CRC32;
Query Match      85.4%; Score 70; DB 1; Length 107;
Best Local Similarity 90.9%; Pred.No. 1.57e-05;
Matches 10; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
Db      83 KACLNPASPMV 93
QY      1 KACLNPASPIV 11
RESULT  4
QY      1 KACLNPASPIVK 12
ID      M12B_HUMAN      STANDARD;          PRT;    107 AA.
AC      P19876;
DT      01-FEB-1991 (REL. 17, CREATED)
DT      01-FEB-1991 (REL. 17, LAST SEQUENCE UPDATE)
DT      01-JUN-1994 (REL. 29, LAST ANNOTATION UPDATE)
DE      MACROPHAGE INFLAMMATORY PROTEIN-2-BETA PRECURSOR (MIP2-BETA) (GROWTH
GN      DE REGULATED PROTEIN GAMMA) (GRO-GAMMA).
OS      GRO3 OR GROG. (HUMAN).
OS      HOMO SAPIENS. (HUMAN).
OC      EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC      PRIMATES; CATARRHINI; HOMINIDAE; HOMO.
RN      [1]
RP      SEQUENCE FROM N.A.
RX      MEDLINE; 90354792.
RA      TEKAMP-OLSON P., GALLEGOS C., BAUER D., MCCLAIN J., SHERRY B.,
RA      FABRE M., VAN DEVENTER S., CERAMI A.;
RT      "Cloning and characterization of cDNAs for murine macrophage
RT      inflammatory protein 2 and its human homologues.";
RL      J. EXP. MED. 172:911-919(1990).
RN      [2]
RP      SEQUENCE FROM N.A.
RX      MEDLINE; 91017578.
RA      HASKILL S., PEACE A., MORRIS J., SPORN S.A., ANISOWICZ A., LEE S.W.,
RA      SMITH T., MARTIN G., RALPH P., SAGER R.;
RT      "Identification of three related human GRO genes encoding cytokine
RT      functions.";
RL      PROC. NATL. ACAD. SCI. U.S.A. 87:7732-7736(1990).
CC      -!- FUNCTION: MAY PLAY A ROLE IN INFLAMMATION AND EXERT ITS EFFECTS
CC      ON ENDOTHELIAL CELLS IN AN AUTOCRINE FASHION.
CC      -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
CC      C-X-C) (CHEMOKINE CXC).
CC      -----
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CC      or send an email to license@isb-sib.ch).
CC      -----
DR      EMBL; X53800; G34563; -.
DR      EMBL; M36821; G183633; -.
DR      PIR; B38290; B38290.
DR      PIR; J0282; J0282.
DR      MIM; J39111; -.
DR      PROSITE; P500471; SMALL_CYTOKINES_CXC; 1.
DR      PFAM; PF00048; i18; 1.
DR      HSSP; P09341; 1MGS.
KW      CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.
FT      SIGNAL      1      34
FT      CHAIN      35      107
FT      MACROPHAGE INFLAMMATORY PROTEIN
FT      2-BETA.
FT      DISULFID      43      69
FT      BY SIMILARITY.
FT      DISULFID      45      85
FT      BY SIMILARITY.
FT      CONFLICT      27      28
FT      AA -> G (IN REF. 2).
SQ      SEQUENCE 107 AA; 11342 MW; 6F2A63D2 CRC32;
Query Match      85.4%; Score 70; DB 1; Length 107;
Best Local Similarity 90.9%; Pred.No. 1.57e-05;
Matches 10; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
Db      83 KACLNPASPMV 93
QY      1 KACLNPASPIV 11

```

```
DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
KW CYTOKINE; GROWTH FACTOR; INFLAMMATORY RESPONSE; SIGNAL.
FT SIGNAL 1 29 POTENTIAL.
FT CHAIN 30 98 GROWTH REGULATED PROTEIN HOMOLOG GAMMA.
FT DISULFID 39 65 BY SIMILARITY.
FT DISULFID 41 81 BY SIMILARITY.
SQ SEQUENCE 98 AA; 10393 MW; ECC2B4C CRC32;

Query Match 78.0%; Score 64; DB 1; Length 98;
Best Local Similarity 70.0%; Pred. No. 6.63e-04;
Matches 8; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Db 81 CLNPAAPVVK 90
   |||||:|:|
QY 3 CLNPASPIVK 12

RESULT 6
ID GROA_BOVIN STANDARD; PRT; 104 AA.
AC O46676;
DT 15-DEC-1998 (REL. 37, CREATED)
DT 15-DEC-1998 (REL. 37, LAST SEQUENCE UPDATE)
DT 15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)
DE GROWTH REGULATED PROTEIN HOMOLOG ALPHA PRECURSOR (GRO-ALPHA).
OS BOS TAURUS (BOVINE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC ARTIODACTYLA; RUMINANTIA; PECORA; BOVOIDEA; BOVINAE; BOS.
RN [1]
RP SEQUENCE FROM N.A.
RA YOSHIMURA T., MODI W.S.;
RL SUBMITTED (MAR-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
C-X-C) (CHEMOKINE CXC).
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or send an email to license@isb-sib.ch).
CC
CC EMBL; U95812; G2735495; -
DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
KW CYTOKINE; GROWTH FACTOR; INFLAMMATORY RESPONSE; SIGNAL.
FT SIGNAL 1 30 POTENTIAL.
FT CHAIN 31 104 GROWTH REGULATED PROTEIN HOMOLOG BETA.
FT DISULFID 40 66 BY SIMILARITY.
FT DISULFID 42 82 BY SIMILARITY.
SQ SEQUENCE 104 AA; 10950 MW; 2C63B23D CRC32;

Query Match 75.6%; Score 62; DB 1; Length 104;
Best Local Similarity 70.0%; Pred. No. 2.23e-03;
Matches 7; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

Db 82 CLNTPAPVVK 91
   |||||:|:|
QY 3 CLNPASPIVK 12

RESULT 8
ID LIX_MOUSE STANDARD; PRT; 132 AA.
AC P50228;
DT 01-OCT-1996 (REL. 34, CREATED)
DT 01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)
DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
DE CYTOKINE LIX PRECURSOR.
GN SCYB5
OS MUS MUSCULUS (MOUSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; MUS.
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE; 95348101.
RA SMITH J.B., HERSCHMAN H.R.;
RT "Glucocorticoid-attenuated response genes encode intercellular
mediators, including a new C-X-C chemokine.";
RL J. BIOL. CHEM. 270:16756-16765(1995).
CC -!- FUNCTION: MAY PARTICIPATE IN THE RECRUITMENT OF INFLAMMATORY CELLS
BY INJURED OR INFECTED TISSUE.
CC -!- INDUCTION: BY LIPOPOLYSACCHARIDE (LPS).
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
C-X-C) (CHEMOKINE CXC).
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CC
CC EMBL; U27267; G950159; -
DR MGD; MGI:1096866; SCYB5.
DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
DR PFAM; PF00048; i18; 1.
DR HSSP; P02775; iNAP.
KW CYTOKINE; SIGNAL.
FT SIGNAL 1 40 POTENTIAL.
FT CHAIN 41 132 CYTOKINE LIX.
FT DISULFID 53 79 BY SIMILARITY.
FT DISULFID 55 95 BY SIMILARITY.
SQ SEQUENCE 132 AA; 14190 MW; 58C45B6B CRC32;
```

```
DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
KW CYTOKINE; GROWTH FACTOR; INFLAMMATORY RESPONSE; SIGNAL.
FT SIGNAL 1 29 POTENTIAL.
FT CHAIN 30 98 GROWTH REGULATED PROTEIN HOMOLOG GAMMA.
FT DISULFID 39 65 BY SIMILARITY.
FT DISULFID 41 81 BY SIMILARITY.
SQ SEQUENCE 98 AA; 10393 MW; ECC2B4C CRC32;

Query Match 78.0%; Score 64; DB 1; Length 98;
Best Local Similarity 70.0%; Pred. No. 6.63e-04;
Matches 8; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Db 81 CLNPAAPVVK 90
   |||||:|:|
QY 3 CLNPASPIVK 12

RESULT 6
ID GROA_BOVIN STANDARD; PRT; 104 AA.
AC O46676;
DT 15-DEC-1998 (REL. 37, CREATED)
DT 15-DEC-1998 (REL. 37, LAST SEQUENCE UPDATE)
DT 15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)
DE GROWTH REGULATED PROTEIN HOMOLOG ALPHA PRECURSOR (GRO-ALPHA).
OS BOS TAURUS (BOVINE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC ARTIODACTYLA; RUMINANTIA; PECORA; BOVOIDEA; BOVINAE; BOS.
RN [1]
RP SEQUENCE FROM N.A.
RA YOSHIMURA T., MODI W.S.;
RL SUBMITTED (MAR-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
C-X-C) (CHEMOKINE CXC).
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or send an email to license@isb-sib.ch).
CC
CC EMBL; U95812; G2735495; -
DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
KW CYTOKINE; GROWTH FACTOR; INFLAMMATORY RESPONSE; SIGNAL.
FT SIGNAL 1 30 POTENTIAL.
FT CHAIN 31 104 GROWTH REGULATED PROTEIN HOMOLOG BETA.
FT DISULFID 40 66 BY SIMILARITY.
FT DISULFID 42 82 BY SIMILARITY.
SQ SEQUENCE 104 AA; 10950 MW; 2C63B23D CRC32;

Query Match 75.6%; Score 62; DB 1; Length 104;
Best Local Similarity 70.0%; Pred. No. 2.23e-03;
Matches 7; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

Db 82 CLNTPAPVVK 91
   |||||:|:|
QY 3 CLNPASPIVK 12

RESULT 8
ID LIX_MOUSE STANDARD; PRT; 132 AA.
AC P50228;
DT 01-OCT-1996 (REL. 34, CREATED)
DT 01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)
DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
DE CYTOKINE LIX PRECURSOR.
GN SCYB5
OS MUS MUSCULUS (MOUSE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; MUS.
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE; 95348101.
RA SMITH J.B., HERSCHMAN H.R.;
RT "Glucocorticoid-attenuated response genes encode intercellular
mediators, including a new C-X-C chemokine.";
RL J. BIOL. CHEM. 270:16756-16765(1995).
CC -!- FUNCTION: MAY PARTICIPATE IN THE RECRUITMENT OF INFLAMMATORY CELLS
BY INJURED OR INFECTED TISSUE.
CC -!- INDUCTION: BY LIPOPOLYSACCHARIDE (LPS).
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
C-X-C) (CHEMOKINE CXC).
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CC
CC EMBL; U27267; G950159; -
DR MGD; MGI:1096866; SCYB5.
DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
DR PFAM; PF00048; i18; 1.
DR HSSP; P02775; iNAP.
KW CYTOKINE; SIGNAL.
FT SIGNAL 1 40 POTENTIAL.
FT CHAIN 41 132 CYTOKINE LIX.
FT DISULFID 53 79 BY SIMILARITY.
FT DISULFID 55 95 BY SIMILARITY.
SQ SEQUENCE 132 AA; 14190 MW; 58C45B6B CRC32;
```

Query Match 72.0%; Score 59; DB 1; Length 132;
 Best Local Similarity 50.0%; Pred. No. 1.32e-02;
 Matches 5; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 95 CLDPEAPV1K 104
 QY 3 CLNPASP1V 12

RESULT 9
 ID MIP2 MOUSE STANDARD; PRT; 100 AA.
 AC P10889;
 DT 01-JUL-1989 (REL. 11, CREATED)
 DT 01-FEB-1991 (REL. 17, LAST SEQUENCE UPDATE)
 DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
 DE MACROPHAGE INFLAMMATORY PROTEIN 2 PRECURSOR (MIP2).
 OS MIP2 OR MIP-2.
 OS MUS MUSCULUS (MOUSE).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC RODENTIA; SCIUROGNATHI; MURIDAE; MORINAE; MUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 90354792.
 RA TEKAMP-OLSON P., GALLEGOS C., BAUER D., MCCLAIN J., SHERRY B.,
 RA FABRE M., VAN DEVENTER S., CERAMI A.;
 RT "Cloning and characterization of cDNAs for murine macrophage
 inflammatory protein 2 and its human homologues.";
 RT J. EXP. MED. 172:911-919(1990).
 RL [2]
 RN SEQUENCE OF 28-59.
 RX MEDLINE; 89098980.
 RA WOLPE S.D., SHERRY B., JUERS D., DAVATELIS G., YURT R.W., CERAMI A.;
 RT "Identification and characterization of macrophage inflammatory
 protein 2.";
 RT PROC. NATL. ACAD. SCI. U.S.A. 86:612-616(1989).
 RL [3]
 RN STRUCTURE BY NMR.
 RP MEDLINE; 98285558.
 RX SHAO W., JERVA L.F., WEST J., LOLIS E., SCHWEITZER B.I.;
 RA "Solution structure of murine macrophage inflammatory protein-2.";
 RL BIOCHEMISTRY 37:8303-8313(1998).
 CC -!- FUNCTION: CHEMOTACTIC FOR HUMAN POLYMORPHONUCLEAR LEUKOCYTES BUT
 CC DOES NOT INDUCE CHEMOKINESIS OR AN OXIDATIVE BURST.
 CC -!- SUBUNIT: HOMOTETRAMER.
 CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
 C-X-C) (CHEMOKINE CXCL).
 CC -----
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 CC -----

EMBL; X53798; G53129; -.
 DR PIR; JH0200; JH0200.
 DR PDB; IMI2; 29-APR-98.
 DR MGI; 96991; MIP2.
 DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
 DR PFAM; PF00048; i18; 1.
 KW CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL; 3D-STRUCTURE.
 FT SIGNAL 1 27
 FT CHAIN 28 100 MACROPHAGE INFLAMMATORY PROTEIN 2.
 FT DISULFID 36 62
 FT DISULFID 38 78
 SQ SEQUENCE 100 AA; 10621 MW; 333AC6A4 CRC32;

Query Match 70.7%; Score 58; DB 1; Length 100;
 Best Local Similarity 54.5%; Pred. No. 2.35e-02;
 Matches 6; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

Db 76 KVCULDPEAPLV 86
 QY 1 KACLNPA5PIV 11

RESULT 10
 ID GRO_CRIGR STANDARD; PRT; 101 AA.
 AC P09340;
 DT 01-MAR-1989 (REL. 10, CREATED)
 DT 01-MAR-1989 (REL. 10, LAST SEQUENCE UPDATE)
 DT 01-DEC-1992 (REL. 24, LAST ANNOTATION UPDATE)
 DE GROWTH REGULATED PROTEIN PRECURSOR.
 GN GRO.
 OS CRICETULUS GRISEUS (CHINESE HAMSTER).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC RODENTIA; SCIUROGNATHI; MURIDAE; CRICETINAE; CRICETULUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 86041072.
 RA ANISOWICZ A., BARDWELL L., SAGER R.;
 RT "Constitutive overexpression of a growth-regulated gene in
 RT transformed Chinese hamster and human cells.";
 RL PROC. NATL. ACAD. SCI. U.S.A. 84:7188-7192(1987).
 CC -!- FUNCTION: HAS CHEMOTACTIC ACTIVITY FOR NEUTROPHILS.
 CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
 C-X-C) (CHEMOKINE CXCL).
 CC -----
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 CC -----

EMBL; J03560; G304509; -.
 DR PIR; B28414; B28414.
 DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
 DR PFAM; PF00048; i18; 1.
 DR HSP; P10889; IMI2.
 KW CYTOKINE; GROWTH FACTOR; INFLAMMATORY RESPONSE; SIGNAL.
 FT SIGNAL 1 28
 FT CHAIN 29 101
 FT DISULFID 37 63
 FT DISULFID 39 79
 SQ SEQUENCE 101 AA; 10893 MW; 3F83AD41 CRC32;

Query Match 69.5%; Score 57; DB 1; Length 101;
 Best Local Similarity 70.0%; Pred. No. 4.18e-02;
 Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 78 ACLNPEAPMV 87
 QY 2 ACLNPA5PIV 11

RESULT 11
 ID PF4L_PIG STANDARD; PRT; 119 AA.
 AC P43030;
 DT 01-NOV-1995 (REL. 32, CREATED)
 DT 01-NOV-1995 (REL. 32, LAST SEQUENCE UPDATE)
 DT 01-NOV-1997 (REL. 35, LAST ANNOTATION UPDATE)
 DE PLATELET BASIC PROTEIN PRECURSOR (PBP).
 GN PBPB.
 OS SUS SCROFA (PIG).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC ARTIODACTYLA; SUIFORMES; SUINA; SUIDAE; SUS.
 RN [1]
 RP SEQUENCE FROM N.A., AND SEQUENCE OF 40-119.
 RC TISSUE=PLATELET;
 RX MEDLINE; 94229068.
 RA POWER C.A., PROUDFOOT A.E.I., MAGNENAT E., BACON K., WELLS T.N.C.;
 RT "Molecular cloning and characterisation of a neutrophil chemotactic

```

RT protein from porcine platelets.";
RL EUR. J. BIOCHEM. 221:713-719(1994).
CC -!- FUNCTION: CHEMOATTRACTANT FACTOR FOR NEUTROPHILS.
CC -!- MASS SPECTROMETRY: MW=8597.5; METHOD=ELECTROSPRAY; RANGE=40-119.
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
CC C-X-C) (CHEMOKINE CXCL).
CC -----
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CC -----
DR EMBL: X77935; G457754; -.
DR PROSITE: PS00471; SMALL_CYTOKINES_CXC; 1.
DR PFAM: PF00048; i18; 1.
DR HSPK: P02775; INAP.
KW CYTOKINE; GROWTH FACTOR; CHEMOTAXIS; MITOGEN; PLATELET; SIGNAL.
FT SIGNAL 1 33 PROBABLE.
FT PROPEP 34 39
FT CHAIN 40 119 PLATELET BASIC PROTEIN.
FT DISULFID 54 80 BY SIMILARITY.
FT DISULFID 56 96 BY SIMILARITY.
SQ SEQUENCE 119 AA; 12615 MW; 607F3E47 CRC32;

Query Match 69.5%; Score 57; DB 1; Length 119;
Best Local Similarity 50.0%; Pred. No. 4.18e-02;
Matches 6; Conservative 3; Mismatches 3; Indels 0; Gaps 0;

Db 94 KICLDPEAPRIK 105
QY 1 KACLNPAPIVK 12

RESULT 12
ID PF4L_HUMAN STANDARD; PRT; 128 AA.
AC P02775;
DT 21-JUL-1986 (REL. 01, CREATED)
DT 01-NOV-1991 (REL. 20, LAST SEQUENCE UPDATE)
DT 15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)
DE PLATELET BASIC PROTEIN PRECURSOR (PBP) [CONTAINS: CONNECTIVE-TISSUE
DE ACTIVATING PEPTIDE III (CTAP-III); LOW-AFFINITY PLATELET FACTOR IV
DE (LA-PF4); BETA-THROMBOGLOBULIN (BETA-TG); NEUTROPHIL-ACTIVATING
DE PEPTIDE 2 (NAP-2)].
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC PRIMATES; CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE; 91170256.
RA MAJUMDAR S., GONDER D., KOUTSIS B., PONCZ M.;
RT "Characterization of the human beta-thromboglobulin gene. Comparison
RT with the gene for platelet factor 4.";
RL J. BIOL. CHEM. 266:5785-5789(1991).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE; 89229374.
RA WENGER R.H., WICKI A.N., WALZ A., KIEFFER N., CLEMETSON K.J.;
RT "Cloning of cDNA coding for connective tissue activating peptide III
RT from a human platelet-derived lambda gtil expression library.";
RL BLOOD 73:1498-1503(1989).
RN [3]
RP SEQUENCE OF 35-53.
RX MEDLINE; 86216117.
RA HOLT J.C., HARRIS M.E., HOLT A.M., LANGE E., HENSCHEN A.,
RA NEWIAROWSKI S.;
RT "Characterization of human platelet basic protein, a precursor form
RT of low-affinity platelet factor 4 and beta-thromboglobulin.";
RL BIOCHEMISTRY 25:1988-1996(1986).
RN [4]

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RP SEQUENCE OF 44-66 AND 125-128.
RX MEDLINE; 83144010.
RA CASTOR C.W., MILLER J.W., WALZ D.A.;
RT "Structural and biological characteristics of connective tissue
RT activating peptide (CTAP-III), a major human platelet-derived growth
RT factor.";
RL PROC. NATL. ACAD. SCI. U.S.A. 80:765-769(1983).
RN [5]
RP SEQUENCE OF 48-126.
RX MEDLINE; 78187279.
RA BEGG G.S., PEPPER D.S., CHESTERMAN C.N., MORGAN F.J.;
RT "Complete covalent structure of human beta-thromboglobulin.";
RL BIOCHEMISTRY 17:1739-1744(1978).
RN [6]
RP SEQUENCE OF 59-126.
RX MEDLINE; 89193761.
RA WALZ A., BAGGIOLINI M.;
RT "A novel cleavage product of beta-thromboglobulin formed in cultures
RT of stimulated mononuclear cells activates human neutrophils.";
RL BIOCHEM. BIOPHYS. RES. COMMUN. 159:969-981(1989).
RN [7]
RP SEQUENCE OF 57-68.
RX MEDLINE; 89391960.
RA CASTOR C.W., WALZ D.A., RAGSDALE C.G., HOSSLER P.A., SMITH E.M.,
RA BIGNALL M.C., AARON B.P., MOUNTJOY K.;
RT "Connective tissue activation. XXIII. Biologically active cleavage
RT products of CTAP-III from human platelets.";
RL BIOCHEM. BIOPHYS. RES. COMMUN. 163:1071-1078(1989).
RN [8]
RP SEQUENCE OF 59-67.
RX MEDLINE; 90155110.
RA WALZ A., BAGGIOLINI M.;
RT "Generation of the neutrophil-activating peptide NAP-2 from platelet
RT basic protein or connective tissue-activating peptide III through
RT monocyte proteases.";
RL J. EXP. MED. 171:449-454(1990).
RN [9]
RP SYNTHESIS OF 59-126.
RX MEDLINE; 91175767.
RA CLARK-LEWIS I., MOSE B., WALZ A., BAGGIOLINI M., SCOTT G.J.,
RA AEBERSOLD R.;
RT "Chemical synthesis, purification, and characterization of two
RT inflammatory proteins, neutrophil activating peptide 1
RT (interleukin-8) and neutrophil activating peptide.";
RL BIOCHEMISTRY 30:3128-3135(1991).
RN [10]
RP X-RAY CRYSTALLOGRAPHY OF 59-128.
RX MEDLINE; 94307404.
RA KUNGL A.J., MACHUIS M., HUBER R., SCHWER C., LAM C., ASCHAUER H.,
RA EHN G., LINDLEY I.J.D., AUER M.;
RT "Purification, crystallization and preliminary X-ray diffraction
RT analysis of recombinant human neutrophil-activating peptide 2
RT (rhNAP-2)."
RL FEBS LETT. 347:300-303(1994).
RN [11]
RP X-RAY CRYSTALLOGRAPHY (1.9 ANGSTROMS) OF 59-128.
RX MEDLINE; 95221354.
RA MALKOWSKI M.G., WU J.Y., LAZAR J.B., JOHNSON P.H., EDWARDS B.F.P.;
RT "The crystal structure of recombinant human neutrophil-activating
RT peptide-2 (M6L) at 1.9-A resolution.";
RL J. BIOL. CHEM. 270:7077-7087(1995).
CC -!- FUNCTION: LA-PF4A STIMULATES DNA SYNTHESIS, MITOSIS, GLYCOLYSIS,
CC SYNTHESIS OF HYALURONIC ACID AND SULFATED GLYCOSAMINOGLYCAN. IT
CC ALSO STIMULATES THE FORMATION AND SECRETION OF PLASMINOGEN
CC CHEMOATTRACTANT AND ACTIVATOR FOR NEUTROPHILS.
CC -!- SUBUNIT: BETA-THROMBOGLOBULIN IS AN HOMOTETRAMER.
CC -!- PTM: PROTEOLYTIC REMOVAL OF RESIDUES 1-9 PRODUCES THE ACTIVE
CC PEPTIDE CONNECTIVE-TISSUE ACTIVATING PEPTIDE III (CTAP III) (LOW-
CC AFFINITY PLATELET FACTOR IV (LA-PF4)).
CC -!- PTM: PROTEOLYTIC REMOVAL OF RESIDUES 1-13 PRODUCES THE ACTIVE
CC PEPTIDE BETA-THROMBOGLOBULIN, WHICH IS RELEASED FROM PLATELETS

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CC ALONG WITH PLATELET FACTOR 4 AND PLATELET-DERIVED GROWTH FACTOR.
 CC -1- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
 CC C-X-C) (CHEMOKINE CXCL).
 CC -----
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 CC -----
 DR EMBL: M54995; G181176; .
 DR PIR: A39546; TGHU.
 DR PIR: A24448; A24448.
 DR PIR: A37382; A37382.
 DR PDB: 1NAP; 19-DEC-95.
 DR PDB: 1TVX; 11-JAN-97.
 DR SWISS-2DPAGE; P02775; HUMAN.
 DR MM: 121010; .
 DR PROSITE: PS00471; SMALL_CYTOKINES_CXC; 1.
 DR PFAM: PF00048; i18; 1.
 KW CYTOKINE; CONNECTIVE TISSUE; GROWTH FACTOR; CHEMOTAXIS; MITOGEN;
 KW PLATELET; SIGNAL; 3D-STRUCTURE.
 FT SIGNAL 1 34
 FT CHAIN 35 128 PLATELET BASIC PROTEIN (PBP).
 FT CHAIN 44 128 LA-PF4 / CTAP-III.
 FT CHAIN 48 128 BETA-THROMBOGLOBULIN.
 FT CHAIN 59 128 NAP-2.
 FT CHAIN 63 89
 FT DISULFID 65 105
 FT SEQUENCE 128 AA; 13894 MW; 15B7D1DF CRC32;
 SQ
 Query Match 69.5%; Score 57; DB 1; Length 128;
 Best Local Similarity 50.0%; Pred. No. 4.18e-02;
 Matches 6; Conservative 3; Mismatches 3; Indels 0; Gaps 0;
 Db 103 KICLDPAPRIK 114
 QY 1 KACLNAPSPIVK 12
 RESULT 13
 ID GCP2_BOVIN STANDARD; PRT; 75 AA.
 AC P80221;
 DT 01-FEB-1994 (REL. 28, CREATED)
 DT 01-FEB-1994 (REL. 28, LAST SEQUENCE UPDATE)
 DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
 DE GRANULOCYTE CHEMOTACTIC PROTEIN 2 (GCP-2).
 GN SCYB6 OR GCP2.
 OS BOS TAURUS (BOVINE).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC ARTIODACTYLA; RUMINANTIA; PECORA; BOVOIDEA; BOVIDAE; BOVINAE; BOS.
 RN [1]
 RP SEQUENCE
 RC TISSUE-KIDNEY;
 RX MEDLINE; 94001982.
 RA PROOST P., WUYTS A., CONINGS R., LENAERTS J.-P., BILLIAU A.,
 RA OPDENAKKER G., VAN DAMME J.;
 RT "Human and bovine granulocyte chemotactic protein-2: complete amino
 RT acid sequence and functional characterization as chemokines";
 RL BIOCHEMISTRY 32:10170-10177(1993).
 CC -1- FUNCTION: CHEMOTACTIC FOR NEUTROPHIL GRANULOCYTES.
 CC -1- SUBCELLULAR LOCATION: SECRETED.
 CC -1- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
 CC C-X-C) (CHEMOKINE CXCL).
 DR PIR: B54188; B54188.
 DR PROSITE: PS00471; SMALL_CYTOKINES_CXC; 1.
 DR PFAM: PF00048; i18; 1.
 DR HSSP: P02775; 1NAP.
 KW CYTOKINE; CHEMOTAXIS; HEPARIN-BINDING.
 FT VARIANT 1 2 MISSING (N-TERMINAL PROCESSING VARIANT).
 FT VARIANT 1 7 MISSING (N-TERMINAL PROCESSING VARIANT).

FT VARIANT 1 8 MISSING (N-TERMINAL PROCESSING VARIANT).
 FT VARIANT 1 9 MISSING (N-TERMINAL PROCESSING VARIANT).
 FT DISULFID 12 38 BY SIMILARITY.
 FT DISULFID 14 54 BY SIMILARITY.
 SQ SEQUENCE 75 AA; 7931 MW; B747167F CRC32;
 Query Match 68.3%; Score 56; DB 1; Length 75;
 Best Local Similarity 50.0%; Pred. No. 7.39e-02;
 Matches 5; Conservative 4; Mismatches 1; Indels 0; Gaps 0;
 Db 54 CLDPEAPLIK 63
 QY 3 CLNAPSPIVK 12
 RESULT 14
 ID LIX_RAT STANDARD; PRT; 130 AA.
 AC P97885;
 DT 01-NOV-1997 (REL. 35, CREATED)
 DT 01-NOV-1997 (REL. 35, LAST SEQUENCE UPDATE)
 DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
 DE CYTOKINE LIX PRECURSOR.
 GN SCYB5.
 OS RATTUS NORVEGICUS (RAT).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; RATTUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN-SPRAGUE-DAWLEY;
 RA KELLER G.S., MACIEJEWSKI-LENOIR D., LEE E.D., MAKI R.A.;
 RL SUBMITTED (FEB-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 CC -1- FUNCTION: MAY PARTICIPATE IN THE RECRUITMENT OF INFLAMMATORY CELLS
 CC BY INJURED OR INFECTED TISSUE (BY SIMILARITY).
 CC -1- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
 CC C-X-C) (CHEMOKINE CXCL).
 CC -----
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 CC -----
 DR EMBL: U90448; G1899248; .
 DR PROSITE: PS00471; SMALL_CYTOKINES_CXC; 1.
 DR PFAM: PF00048; i18; 1.
 DR HSSP: P10889; IMI2.
 KW CYTOKINE; SIGNAL.
 FT SIGNAL 1 37 POTENTIAL.
 FT CHAIN 38 130 CYTOKINE LIX.
 FT DISULFID 50 76 BY SIMILARITY.
 FT DISULFID 52 93 BY SIMILARITY.
 SQ SEQUENCE 130 AA; 14263 MW; 5F6C874C CRC32;
 Query Match 68.3%; Score 56; DB 1; Length 130;
 Best Local Similarity 41.7%; Pred. No. 7.39e-02;
 Matches 5; Conservative 5; Mismatches 2; Indels 0; Gaps 0;
 Db 91 NVCLDQAPLIK 102
 QY 1 KACLNAPSPIVK 12
 RESULT 15
 ID CPLB_RAT STANDARD; PRT; 543 AA.
 AC Q64678;
 DT 15-DEC-1998 (REL. 37, CREATED)
 DT 15-DEC-1998 (REL. 37, LAST SEQUENCE UPDATE)
 DT 15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)
 DE CYTOCHROME P450 1B1 (EC 1.14.14.1) (CYP1B1) (P450RAP).
 GN CYP1B1.
 OS RATTUS NORVEGICUS (RAT).

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OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; RATTUS.
RN [1]
RP SEQUENCE FROM N.A., AND PARTIAL SEQUENCE.
RC STRAIN-SPRAGUE-DAWLEY;
RX MEDLINE; 95263485.
RA BHATTACHARYA K.K., BRAKE P.B., ELTOM S.E., OTTO S.A., JEFFCOATE C.R.;
RT "Identification of a rat adrenal cytochrome P450 active in polycyclic
RT hydrocarbon metabolism as rat CYP1B1. Demonstration of a unique
RT tissue-specific pattern of hormonal and aryl hydrocarbon
RT receptor-linked regulation."
RL J. BIOL. CHEM. 270:11595-11602(1995).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN-SPRAGUE-DAWLEY; TISSUE=LIVER;
RX MEDLINE; 95308679.
RA WALKER N.J., GASTEL J.A., COSTA L.T., CLARK G.C., LUCIER G.W.,
RA SUTTER T.R.;
RT "Rat CYP1B1: an adrenal cytochrome P450 that exhibits sex-dependent
RT expression in livers and kidneys of TCDD-treated animals."
RL CARCINOGENESIS 16:1319-1327(1995).
CC -!- FUNCTION: CYTOCHROMES P450 ARE A GROUP OF HEME-THIOLATE
CC MONOOXYGENASES. IN LIVER MICROSOMES, THIS ENZYME IS INVOLVED IN AN
CC NADPH-DEPENDENT ELECTRON TRANSPORT PATHWAY. IT OXIDIZES A VARIETY
CC OF STRUCTURALLY UNRELATED COMPOUNDS, INCLUDING STEROIDS, FATTY
CC ACIDS, AND XENOBIOTICS.
CC -!- CATALYTIC ACTIVITY: RH + REDUCED FLAVOPROTEIN + O(2) = ROH +
CC OXIDIZED FLAVOPROTEIN + H(2)O.
CC -!- SUBCELLULAR LOCATION: MEMBRANE-BOUND. ENDOPLASMIC RETICULUM.
CC -!- INDUCTION: BY POLYCYCLIC AROMATIC HYDROCARBONS (PAH) AND BY
CC 2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (TCDD).
CC -!- SIMILARITY: BELONGS TO THE CYTOCHROME P450 FAMILY.
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CC -----
DR EMBL; X83867; G853814; -.
DR EMBL; U09540; G1039377; -.
DR PROSITE; PS00086; CYTOCHROME_P450; 1.
DR PFAM; PF00067; P450; 1.
KW OXIDOREDUCTASE; MONOOXYGENASE; ELECTRON TRANSPORT; MEMBRANE; HEME;
KW MICROSOME; ENDOPLASMIC RETICULUM.
FT BINDING 470 470 HEME (BY SIMILARITY).
SQ SEQUENCE 543 AA; 60556 MW; DC0591ED CRC32;
Query Match 58.3%; Score 56; DB 1; Length 543;
Best Local Similarity 60.0%; Pred. No. 7.39e-02;
Matches 6; Conservative 3; Mismatches 1; Indels 0; Gaps 0;
Db 189 ACLDPTQPII 198
QY 2 ACLNPASPIV 11

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Search completed: Fri Feb 4 18:03:16 2000
Job time : 8 secs.

MPsrch_pp protein - protein database search, using Smith-Waterman algorithm
Run on: Fri Feb 4 18:02:23 2000; MasPar time 3.57 Seconds
Tabular output not generated.
134.678 Million cell updates/sec

Title: >US-09-150-813-72
Description: (1-12) from US09150813.pep
Perfect Score: 82
Sequence: 1 KACLNPAPIVK 12

Scoring table: PAM 150
Gap 15
Searched: 12810 seqs, 40068593 residues
Post-processing: Minimum Match 0%
Listing first 45 summaries

Database: pir60
1:pir1 2:pir2 3:pir3 4:pir4
Statistics: Mean 23.040; Variance 28.486; scale 0.809
Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match | Length | ID | Description | Pred. No. |
|------------|-------|-------------|--------|----|------------------------------|-----------|
| 1 | 82 | 100.0 | 107 | 2 | A28414 melanoma growth-stimu | 1.57e-07 |
| 2 | 77 | 93.9 | 107 | 2 | JH0281 macrophage inflammato | 3.03e-06 |
| 3 | 70 | 85.4 | 107 | 2 | B38290 GRO-gamma precursor - | 1.68e-04 |
| 4 | 59 | 72.0 | 132 | 2 | A57325 C-X-C chemokine LIX - | 6.55e-02 |
| 5 | 58 | 70.7 | 100 | 2 | JH0200 macrophage inflammato | 1.10e-01 |
| 6 | 57 | 69.5 | 101 | 2 | B28414 growth-regulated prot | 1.83e-01 |
| 7 | 57 | 69.5 | 119 | 2 | S42881 platelet basic protei | 1.83e-01 |
| 8 | 57 | 69.5 | 128 | 1 | TGHU beta-thromboglobulin | 1.83e-01 |
| 9 | 56 | 68.3 | 75 | 2 | B54188 granulocyte chemotact | 3.04e-01 |
| 10 | 56 | 68.3 | 543 | 2 | I48130 cytochrome P450 1B1 - | 3.04e-01 |
| 11 | 56 | 68.3 | 614 | 2 | S58444 SUP35 protein - Afric | 3.04e-01 |
| 12 | 55 | 67.1 | 53 | 2 | I64831 gene KC protein - rat | 5.02e-01 |
| 13 | 55 | 67.1 | 96 | 2 | A32954 gro-alpha precursor - | 5.02e-01 |
| 14 | 55 | 67.1 | 96 | 2 | JN0572 neutrophil chemo-atr | 1.35e+00 |
| 15 | 53 | 64.6 | 53 | 2 | I51886 macrophage inflammato | 1.35e+00 |
| 16 | 53 | 64.6 | 100 | 2 | S21467 macrophage inflammato | 1.35e+00 |
| 17 | 53 | 64.6 | 100 | 2 | I55614 macrophage inflammato | 1.35e+00 |
| 18 | 53 | 64.6 | 115 | 2 | E71362 hypothetical protein | 1.35e+00 |
| 19 | 53 | 64.6 | 117 | 2 | B42553 alveolar macrophage c | 1.35e+00 |
| 20 | 51 | 62.2 | 75 | 2 | A54188 granulocyte chemotact | 3.53e+00 |
| 21 | 51 | 62.2 | 98 | 2 | I59277 Mob-1 - rat | 3.53e+00 |
| 22 | 51 | 62.2 | 114 | 2 | A55010 neutrophil-activating | 3.53e+00 |
| 23 | 51 | 62.2 | 125 | 2 | JN0470 interferon gamma-indu | 3.53e+00 |

| RESULT ENTRY | 24 | 51 | 62.2 | 380 | 2 | T02342 | DNA-binding protein - | 3.53e+00 |
|-----------------|----|----|------|------|---|---------|-----------------------|----------|
| TYPE | 25 | 51 | 62.2 | 546 | 2 | TG02029 | DNA-binding protein p | 3.53e+00 |
| ALTERNATE_NAMES | 26 | 50 | 61.0 | 98 | 1 | TGHU01 | interferon gamma-indu | 5.66e+00 |
| | 27 | 50 | 61.0 | 126 | 2 | A35766 | platelet factor 4, in | 5.66e+00 |
| | 28 | 50 | 61.0 | 406 | 2 | T03111 | hypothetical protein | 5.66e+00 |
| | 29 | 50 | 61.0 | 861 | 2 | S34730 | 1.4-alpha-glucan bran | 5.66e+00 |
| | 30 | 50 | 61.0 | 1053 | 2 | S72194 | hydroxymethylglutaryl | 5.66e+00 |
| | 31 | 50 | 61.0 | 2073 | 1 | BWASBE | bime protein - Emeric | 5.66e+00 |
| | 32 | 49 | 59.8 | 161 | 1 | UBURAL | tubulin alpha chain - | 9.03e+00 |
| | 33 | 49 | 59.8 | 448 | 2 | I77427 | tubulin alpha chain (| 9.03e+00 |
| | 34 | 49 | 59.8 | 448 | 2 | A25873 | tubulin alpha chain - | 9.03e+00 |
| | 35 | 49 | 59.8 | 449 | 2 | S00253 | tubulin alpha chain - | 9.03e+00 |
| | 36 | 49 | 59.8 | 450 | 2 | S52152 | tubulin alpha chain - | 9.03e+00 |
| | 37 | 49 | 59.8 | 450 | 2 | A56622 | tubulin alpha chain, | 9.03e+00 |
| | 38 | 49 | 59.8 | 450 | 2 | S43138 | tubulin alpha chain - | 9.03e+00 |
| | 39 | 49 | 59.8 | 451 | 2 | A48433 | tubulin alpha chain - | 9.03e+00 |
| | 40 | 49 | 59.8 | 451 | 2 | A24903 | tubulin alpha-1 chain | 9.03e+00 |
| | 41 | 49 | 59.8 | 451 | 1 | UBPGA | tubulin alpha chain - | 9.03e+00 |
| | 42 | 49 | 59.8 | 451 | 2 | I77424 | tubulin alpha chain 1 | 9.03e+00 |
| | 43 | 49 | 59.8 | 451 | 2 | I77403 | tubulin alpha-1 chain | 9.03e+00 |
| | 44 | 49 | 59.8 | 451 | 2 | JC4133 | tubulin alpha chain, | 9.03e+00 |
| | 45 | 49 | 59.8 | 591 | 1 | F0MVM | gag polyprotein - mou | 9.03e+00 |

ALIGNMENTS

| ORGANISM | A28414 | #type complete |
|-------------------|--|--------------------------------|
| DATE | 30-Jun-1989 | mitogenic protein |
| ACCESSIONS | S13669 | #formal_name Homo sapiens |
| REFERENCE | Baker, N.E.; Kucera, G.; Richmond, A. | #sequence-revision 30-Jun-1989 |
| #authors | Nucleic Acids Res. (1990) 18:6453 | #text_change |
| #journal | Nucleotide sequence of the human melanoma growth stimulatory | |
| #title | activity (MGSA) gene. | |
| #cross-references | MUID:91057157 | |
| #accession | S13669 | |
| #status | preliminary | |
| #molecule_type | DNA | |
| #residues | 1-107 | #label BAK |
| #cross-references | EMBL:X54489; NID:g34625; PID:g34626 | |
| REFERENCE | A34184 | |
| #authors | Anisowicz, A.; Bardwell, L.; Sager, R. | |
| #journal | Proc. Natl. Acad. Sci. U.S.A. (1987) 84:7188-7192 | |
| #title | Constitutive overexpression of a growth-regulated gene in | |
| #cross-references | MUID:88041072 | |
| #accession | A28414 | |
| #molecule_type | mRNA | |
| #residues | 1-107 | #label ANI |
| #cross-references | GB:J03561; NID:g183622; PID:g306806 | |
| REFERENCE | S00993 | |
| #authors | Richmond, A.; Balentien, E.; Thomas, H.G.; Flaggs, G.; | |
| | Barton, D.E.; Spiess, J.; Bordon, R.; Francke, U.; | |
| | Derynck, R. | |
| #journal | EMBO J. (1988) 7:2025-2033 | |
| #title | Molecular characterization and chromosomal mapping of | |
| | melanoma growth stimulatory activity, a growth factor | |
| | structurally related to beta-thromboglobulin. | |
| #cross-references | MUID:88328991 | |
| #accession | S00983 | |
| #molecule_type | mRNA | |
| #residues | 1-107 | #label RIC |
| #cross-references | EMBL:X12510; NID:g34621; PID:g34622 | |
| REFERENCE | A60401 | |
| #authors | Schroeder, J.M.; Sticherling, M.; Henneicke, H.H.; Preissner, W.C.; Christophers, E. | |

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#journal J. Immunol. (1990) 144:2223-2232
#title IL-1alpha or tumor necrosis factor-alpha stimulate release of
three NAP-1/IL-8-related neutrophil chemotactic proteins in
human dermal fibroblasts.
#cross-references MUID:90187866
#accession B60401
#molecule_type protein
#residues 35-42,'X',44,'X',46-48 #label SCH
#experimental_source dermal fibroblasts
REFERENCE S03975
#authors Golds, E.E.; Mason, P.; Nyirkos, P.
#journal Biochem. J. (1989) 259:585-588
#title Inflammatory cytokines induce synthesis and secretion of gro
protein and a neutrophil chemotactic factor but not
beta-2-microglobulin in human synovial cells and
fibroblasts.
#cross-references MUID:89246368
#accession S03976
#molecule_type protein
#residues 35-41,'X',43-49,'X',51-52,'XX',55-57 #label GOL
REFERENCE A47626
#authors Schroeder, J.M.; Persoon, N.L.M.; Christophers, E.
#journal J. Exp. Med. (1990) 171:1091-1100
#title Lipopolysaccharide-stimulated human monocytes secrete, apart
from neutrophil-activating peptide 1/interleukin 8, a
second neutrophil-activating protein. NH-2-terminal amino
acid sequence identity with melanoma growth stimulatory
activity.
#accession A47626
#molecule_type protein
#residues 35-63,'X',65 #label SC2
#experimental_source LPS-stimulated monocytes
REFERENCE A46519
#authors Proost, P.; De Wolf-Peeters, C.; Conings, R.; Opdenakker, G.;
Billiau, A.; Van Damme, J.
#journal J. Immunol. (1993) 150:1000-1010
#title Identification of a novel granulocyte chemotactic protein
(GCP-2) from human tumor cells. In vitro and in vivo
comparison with natural forms of GRO, IP-10, and IL-8.
#cross-references MUID:93139489
#accession B46519
#molecule_type protein
#residues 35-62 #label PRO
#experimental_source MG-63 osteosarcoma cells
GENETICS
#gene GDB:GRO1
#map_position 4q21-4q21
#cross-references GDB:120181; OMIM:155730
CLASSIFICATION #superfamily beta-thromboglobulin
FEATURE
1-34 #domain signal sequence #status predicted #label SIG\
35-107 #product melanoma growth-stimulatory activity #status
experimental #label MAT
SUMMARY #length 107 #molecular-weight 11301 #checksum 1301
Query Match 100.0%; Score 82; DB 2; Length 107;
Best Local Similarity 100.0%; Pred. No. 1.57e-07;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Db 83 KACLNPASPIVK 94
QY 1 KACLNPASPIVK 12
|||||
RESULT 2
ENTRY
TITLE
ALTERNATE_NAMES
JH0281 #type complete
#macrophage inflammatory protein 2 alpha precursor - human
#gro-beta: growth regulated protein beta: melanoma
#growth-stimulatory activity; monocyte adherence-induced
protein 2
#formal_name Homo sapiens #common_name man
#30-Sep-1991 #sequence_revision 30-Sep-1991 #text_change
31-Oct-1997
ORGANISM
DATE

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ACCESSIONS JH0281; A35931; A38290; A60407
REFERENCE
#authors Tekamp-Olson, P.; Gallegos, C.; Bauer, D.; McClain, J.;
Sherry, B.; Fabre, M.; van Deventer, S.; Cerami, A.
#journal J. Exp. Med. (1990) 172:911-919
#title Cloning and characterization of cDNAs for murine macrophage
inflammatory protein 2 and its human homologues.
#cross-references MUID:90354792
#accession JH0281
#molecule_type mRNA
#residues 1-107 #label TEK
#cross-references GB:X53799; NID:g34658; PID:g34659
REFERENCE A35931
#authors Iida, N.; Grotendorst, G.R.
#journal Mol. Cell. Biol. (1990) 10:5596-5599
#title Cloning and sequencing of a new gro transcript from activated
human monocytes: expression in leukocytes and wound tissue.
#cross-references MUID:90377259
#accession A35931
#molecule_type mRNA
#residues 1-107 #label IID
#cross-references GB:M57731; GB:M36964; NID:gl83626; PID:gl83627
REFERENCE A38290
#authors Haskill, S.; Peace, A.; Morris, J.; Sporn, S.A.; Anisowicz,
A.; Lee, S.W.; Smith, T.; Martin, G.; Ralph, P.; Sager, R.
#journal Proc. Natl. Acad. Sci. U.S.A. (1990) 87:7732-7736
#title Identification of three related human GRO genes encoding
cytokine functions.
#cross-references MUID:91017578
#accession A38290
#molecule_type mRNA
#residues 1-107 #label HAS
#cross-references GB:M36820; NID:gl83628; PID:gl83629
REFERENCE A60407
#authors Sporn, S.A.; Eierman, D.F.; Johnson, C.E.; Morris, J.;
Martin, G.; Ladner, M.; Haskill, S.
#journal J. Immunol. (1990) 144:4434-4441
#title Monocyte adherence results in selective induction of novel
genes sharing homology with mediators of inflammation and
tissue repair.
#cross-references MUID:90257367
#accession A60407
#status not compared with conceptual translation
#molecule_type mRNA
#residues 56-107 #label SPO
CLASSIFICATION #superfamily beta-thromboglobulin
KEYWORDS inflammation
FEATURE
1-34 #domain signal sequence #status predicted #label SIG\
35-107 #product macrophage inflammatory protein 2 alpha #status
predicted #label MAT
SUMMARY #length 107 #molecular-weight 11389 #checksum 929
Query Match 93.9%; Score 77; DB 2; Length 107;
Best Local Similarity 91.7%; Pred. No. 3.03e-06;
Matches 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
Db 83 KACLNPASPMVK 94
QY 1 KACLNPASPIVK 12
|||||
RESULT 3
ENTRY
TITLE
ALTERNATE_NAMES
B38290 #type complete
#GRO-gamma precursor - human
#growth-regulated protein gamma; macrophage inflammatory
protein 2 beta
#formal_name Homo sapiens #common_name man
#31-May-1991 #sequence_revision 27-Oct-1995 #text_change
08-Sep-1997
ORGANISM
DATE
ACCESSIONS JH0282; B38290; C46519
REFERENCE JH0200
#authors Tekamp-Olson, P.; Gallegos, C.; Bauer, D.; McClain, J.;

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#journal Sherry, B.; Fabre, M.; van Deventer, S.; Cerami, A.
 #title J. Exp. Med. (1990) 172:911-919
 #cross-references GB:933800; NID:g34662; PID:g34663
 #accession JH0282
 #molecule_type mRNA
 #residues 1-107 #label TEK
 ##cross-references GB:X53800; NID:g34662; PID:g34663
 #authors Haskill, S.; Peace, A.; Morris, J.; Sporn, S.A.; Anisowicz, A.; Lee, S.W.; Smith, T.; Martin, G.; Ralph, P.; Sager, R.
 #journal Proc. Natl. Acad. Sci. U.S.A. (1990) 87:7732-7736
 #title Identification of three related human GRO genes encoding cytokine functions.
 #cross-references MUID:91017578
 #accession B38290
 #molecule_type mRNA
 #residues 1-26, 'G', 29-107 #label HAS
 ##cross-references GB:M36821; NID:g183632; PID:g183633
 #authors Proost, P.; De Wolf-Peeters, C.; Conings, R.; Opdenakker, G.; Billiau, A.; Van Damme, J.
 #journal J. Immunol. (1993) 150:1000-1010
 #title Identification of a novel granulocyte chemotactic protein (GCP-2) from human tumor cells. In vitro and in vivo comparison with natural forms of GRO, IP-10, and IL-8.
 #cross-references MUID:9339489
 #accession C46519
 #molecule_type protein
 #residues 35-52 #label PRO
 ##experimental_source MG-63 osteosarcoma cells

GENETICS

#map_position 4q21
 CLASSIFICATION #superfamily beta-thromboglobulin
 FEATURE
 1-34
 35-107
 #length 107 #molecular_weight 11342 #checksum 2559
 Query Match 85.4%; Score 70; DB 2; Length 107;
 Best Local Similarity 90.9%; Pred. No. 1.68e-04;
 Matches 10; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Db 83 KACLNPASPMV 93

QY 1 KACLNPASPIV 11

RESULT 4
 ENTRY C-X-C chemokine LIX - mouse
 TITLE GARG-8/LIX; glucocorticoid-attenuated response gene 8
 ALTERNATE_NAMES #formal_name Mus musculus #common_name house mouse
 ORGANISM 08-Dec-1995 #sequence_revision 08-Dec-1995 #text_change
 DATE 08-Sep-1997
 ACCESSIONS A57325
 REFERENCE A57325
 #authors Smith, J.B.; Herschman, H.R.
 #journal J. Biol. Chem. (1995) 270:16756-16765
 #title Glucocorticoid-attenuated response genes encode intercellular mediators, including a new C-X-C chemokine.
 #cross-references MUID:95348101
 #accession A57325
 #status preliminary; not compared with conceptual translation
 #molecule_type mRNA
 #residues 1-132 #label SMI
 ##cross-references GB:U27267; NID:g950158; PID:g950159
 CLASSIFICATION #superfamily beta-thromboglobulin
 SUMMARY #length 132 #molecular_weight 14190 #checksum 2181

Query Match 72.0%; Score 59; DB 2; Length 132;
 Best Local Similarity 50.0%; Pred. No. 6.55e-02;

Db 83 KACLNPASPMV 93

QY 1 KACLNPASPIV 11

RESULT 4
 ENTRY C-X-C chemokine LIX - mouse
 TITLE GARG-8/LIX; glucocorticoid-attenuated response gene 8
 ALTERNATE_NAMES #formal_name Mus musculus #common_name house mouse
 ORGANISM 08-Dec-1995 #sequence_revision 08-Dec-1995 #text_change
 DATE 08-Sep-1997
 ACCESSIONS A57325
 REFERENCE A57325
 #authors Smith, J.B.; Herschman, H.R.
 #journal J. Biol. Chem. (1995) 270:16756-16765
 #title Glucocorticoid-attenuated response genes encode intercellular mediators, including a new C-X-C chemokine.
 #cross-references MUID:95348101
 #accession A57325
 #status preliminary; not compared with conceptual translation
 #molecule_type mRNA
 #residues 1-132 #label SMI
 ##cross-references GB:U27267; NID:g950158; PID:g950159
 CLASSIFICATION #superfamily beta-thromboglobulin
 SUMMARY #length 132 #molecular_weight 14190 #checksum 2181

Query Match 72.0%; Score 59; DB 2; Length 132;
 Best Local Similarity 50.0%; Pred. No. 6.55e-02;

Db 83 KACLNPASPMV 93

QY 1 KACLNPASPIV 11

RESULT 4
 ENTRY C-X-C chemokine LIX - mouse
 TITLE GARG-8/LIX; glucocorticoid-attenuated response gene 8
 ALTERNATE_NAMES #formal_name Mus musculus #common_name house mouse
 ORGANISM 08-Dec-1995 #sequence_revision 08-Dec-1995 #text_change
 DATE 08-Sep-1997
 ACCESSIONS A57325
 REFERENCE A57325
 #authors Smith, J.B.; Herschman, H.R.
 #journal J. Biol. Chem. (1995) 270:16756-16765
 #title Glucocorticoid-attenuated response genes encode intercellular mediators, including a new C-X-C chemokine.
 #cross-references MUID:95348101
 #accession A57325
 #status preliminary; not compared with conceptual translation
 #molecule_type mRNA
 #residues 1-132 #label SMI
 ##cross-references GB:U27267; NID:g950158; PID:g950159
 CLASSIFICATION #superfamily beta-thromboglobulin
 SUMMARY #length 132 #molecular_weight 14190 #checksum 2181

Matches 5; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 95 CLDPEAPVIK 104

QY 3 CLNPASPIV 12

RESULT 5
 ENTRY JH0200 #type complete
 TITLE macrophage inflammatory protein 2 precursor - mouse
 ORGANISM #formal_name Mus musculus #common_name house mouse
 DATE 30-Sep-1991 #sequence_revision 30-Sep-1991 #text_change
 08-Sep-1997
 ACCESSIONS JH0200; A32190
 REFERENCE JH0200
 #authors Tekamp-Olson, P.; Gallegos, C.; Bauer, D.; McClain, J.; Sherry, B.; Fabre, M.; van Deventer, S.; Cerami, A.
 #journal J. Exp. Med. (1990) 172:911-919
 #title Cloning and characterization of cDNAs for murine macrophage inflammatory protein 2 and its human homologues.
 #cross-references MUID:90354792
 #accession JH0200
 #molecule_type mRNA
 #residues 1-100 #label TEK
 ##cross-references GB:X53798; NID:g53128; PID:g53129
 REFERENCE A32190
 #authors Wolpe, S.D.; Sherry, B.; Juers, D.; Davatelis, G.; Yurt, R.W.; Cerami, A.
 #journal Proc. Natl. Acad. Sci. U.S.A. (1989) 86:612-616
 #title Identification and characterization of macrophage inflammatory protein 2.
 #cross-references MUID:89098980
 #accession A32190
 #molecule_type protein
 #residues 28-59 #label WOL
 CLASSIFICATION #superfamily beta-thromboglobulin
 KEYWORDS heparin binding
 FEATURE
 1-27
 28-100
 #domain signal sequence #status predicted #label SIG\
 #product macrophage inflammatory protein 2 #status experimental #label MAT
 #length 100 #molecular_weight 10621 #checksum 8720

Query Match 70.7%; Score 58; DB 2; Length 100;
 Best Local Similarity 54.5%; Pred. No. 1.10e-01;
 Matches 6; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

Db 76 KVCLEPEAPLV 86

QY 1 KACLNPASPIV 11

RESULT 6
 ENTRY B28414 #type complete
 TITLE growth-regulated protein precursor - Chinese hamster
 ORGANISM #formal_name Cricetulus griseus #common_name hamster
 DATE 30-Jun-1989 #sequence_revision 30-Jun-1989 #text_change
 20-Mar-1998
 ACCESSIONS B28414
 REFERENCE A94184
 #authors Anisowicz, A.; Bardwell, L.; Sager, R.
 #journal Proc. Natl. Acad. Sci. U.S.A. (1987) 84:7188-7192
 #title Constitutive overexpression of a growth-regulated gene in transformed Chinese hamster and human cells.
 #cross-references MUID:88041072
 #accession B28414
 #molecule_type mRNA
 #residues 1-101 #label ANI
 ##cross-references GB:J03560; NID:gi91088; PID:g304509
 #note the authors translated the codon CAG for residue 52 as Glu
 CLASSIFICATION #superfamily beta-thromboglobulin
 FEATURE

Query Match 70.7%; Score 58; DB 2; Length 100;
 Best Local Similarity 54.5%; Pred. No. 1.10e-01;
 Matches 6; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

Db 76 KVCLEPEAPLV 86

QY 1 KACLNPASPIV 11

RESULT 6
 ENTRY B28414 #type complete
 TITLE growth-regulated protein precursor - Chinese hamster
 ORGANISM #formal_name Cricetulus griseus #common_name hamster
 DATE 30-Jun-1989 #sequence_revision 30-Jun-1989 #text_change
 20-Mar-1998
 ACCESSIONS B28414
 REFERENCE A94184
 #authors Anisowicz, A.; Bardwell, L.; Sager, R.
 #journal Proc. Natl. Acad. Sci. U.S.A. (1987) 84:7188-7192
 #title Constitutive overexpression of a growth-regulated gene in transformed Chinese hamster and human cells.
 #cross-references MUID:88041072
 #accession B28414
 #molecule_type mRNA
 #residues 1-101 #label ANI
 ##cross-references GB:J03560; NID:gi91088; PID:g304509
 #note the authors translated the codon CAG for residue 52 as Glu
 CLASSIFICATION #superfamily beta-thromboglobulin
 FEATURE

Query Match 70.7%; Score 58; DB 2; Length 100;
 Best Local Similarity 54.5%; Pred. No. 1.10e-01;
 Matches 6; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

Db 76 KVCLEPEAPLV 86

QY 1 KACLNPASPIV 11

RESULT 6
 ENTRY B28414 #type complete
 TITLE growth-regulated protein precursor - Chinese hamster
 ORGANISM #formal_name Cricetulus griseus #common_name hamster
 DATE 30-Jun-1989 #sequence_revision 30-Jun-1989 #text_change
 20-Mar-1998
 ACCESSIONS B28414
 REFERENCE A94184
 #authors Anisowicz, A.; Bardwell, L.; Sager, R.
 #journal Proc. Natl. Acad. Sci. U.S.A. (1987) 84:7188-7192
 #title Constitutive overexpression of a growth-regulated gene in transformed Chinese hamster and human cells.
 #cross-references MUID:88041072
 #accession B28414
 #molecule_type mRNA
 #residues 1-101 #label ANI
 ##cross-references GB:J03560; NID:gi91088; PID:g304509
 #note the authors translated the codon CAG for residue 52 as Glu
 CLASSIFICATION #superfamily beta-thromboglobulin
 FEATURE

1-23 #domain signal sequence #status predicted #label SIG
 24-101 #product growth-regulated protein #status predicted
 #label MAT

SUMMARY #length 101 #molecular-weight 10893 #checksum 3057

Query Match 69.5%; Score 57; DB 2; Length 101;
 Best Local Similarity 70.0%; Pred. No. 1.83e-01;
 Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 78 ACLNPEAPMV 87
 |||||:|:|
 Qy 2 ACLNPASPIV 11

RESULT 7
 ENTRY S42881 #type complete
 TITLE platelet basic protein - pig
 ORGANISM #formal_name Sus scrofa domestica #common_name domestic pig
 DATE 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change 17-Mar-1999
 ACCESSIONS S43460; S42881
 REFERENCE S43460
 #authors Power, C.A.; Proudfoot, A.E.I.; Magnenat, E.; Bacon, K.B.; Wells, T.N.C.
 #journal Eur. J. Biochem. (1994) 221:713-719
 #title Molecular cloning and characterisation of a neutrophil chemotactic protein from porcine platelets.
 #cross-references MUID:94229068
 #accession S43460
 #status preliminary
 #molecule_type mRNA
 #residues 1-119 #label POW
 #cross-references EMBL:X77935; NID:g457753; PID:g457754
 CLASSIFICATION #superfamily beta-thromboglobulin
 SUMMARY #length 119 #molecular-weight 12615 #checksum 9198

Query Match 69.5%; Score 57; DB 2; Length 119;
 Best Local Similarity 50.0%; Pred. No. 1.83e-01;
 Matches 6; Conservative 3; Mismatches 3; Indels 0; Gaps 0;

Db 94 KICLOPEAPRIK 105
 |||||:|:|
 QY 1 KACLNPAPIVK 12

RESULT 8
 ENTRY TGHU #type complete
 TITLE beta-thromboglobulin precursor - human
 CONTAINS connective-tissue activating peptide III; CTAP-III;
 histamine-releasing factor; neutrophil-activating peptide
 2; platelet basic protein
 ORGANISM #formal_name Homo sapiens #common_name man
 DATE 30-Apr-1979 #sequence_revision 31-Dec-1992 #text_change 26-Feb-1999
 ACCESSIONS A39546; A37382; A24448; PL0222; A93982; A90411; A60709;
 A61240; B61240; A03240; A30159; A33516; S46247
 REFERENCE A39546
 #authors Majumdar, S.; Gonder, D.; Koutsis, B.; Poncz, M.
 #journal J. Biol. Chem. (1991) 266:5785-5789
 #title Characterization of the human beta-thromboglobulin gene.
 Comparison with the gene for platelet factor 4.
 #cross-references MUID:91170256
 #accession A39546
 #molecule_type DNA
 #residues 1-128 #label MAJ
 #cross-references GB:M54995; NID:g181175; PID:g181176
 #note the authors translated the codon GAT for residue 109 as Pro

REFERENCE A37382
 #authors Wenger, R.H.; Wicki, A.N.; Walz, A.; Kieffer, N.; Clemetson, K.J.
 #journal Blood (1989) 73:1498-1503
 #title Cloning of cDNA coding for connective tissue activating

peptide III from a human platelet-derived lambdagtII expression library.
 #cross-references MUID:89229374
 #accession A37382
 #molecule_type mRNA
 #residues 1-128 #label WEN
 #cross-references GB:M54995; NID:g181175; PID:g181176; GB:M38441
 REFERENCE A24448
 #authors Holt, J.C.; Harris, M.E.; Holt, A.M.; Lange, E.; Henschen, A.; Niewiarowski, S.
 #journal Biochemistry (1986) 25:1988-1996
 #title Characterization of human platelet basic protein, a precursor form of low-affinity platelet factor 4 and beta-thromboglobulin.
 #cross-references MUID:86216117
 #accession A24448
 #molecule_type protein
 #residues 35-53 #label HOL
 REFERENCE PL0222
 #authors Walz, A.; Baggiolini, M.
 #journal J. Exp. Med. (1990) 171:449-454
 #title Generation of the neutrophil-activating peptide NAP-2 from platelet basic protein or connective tissue-activating peptide III through monocyte proteases.

#cross-references MUID:90155110
 #accession PL0222
 #molecule_type protein
 #residues 54-67 #label WAL
 REFERENCE A93982
 #authors Castor, C.W.; Miller, J.W.; Walz, D.A.
 #journal Proc. Natl. Acad. Sci. U.S.A. (1983) 80:765-769
 #title Structural and biological characteristics of connective tissue activating peptide (CTAP-III), a major human platelet-derived growth factor.

#cross-references MUID:83144010
 #accession A93982
 #molecule_type protein
 #residues 44-66;125-128 #label CAS
 REFERENCE A90411
 #authors Begg, G.S.; Pepper, D.S.; Chesterman, C.N.; Morgan, F.J.
 #journal Biochemistry (1978) 17:1739-1744
 #title Complete covalent structure of human beta-thromboglobulin.
 #cross-references MUID:78187279
 #accession A90411
 #molecule_type protein
 #residues 48-128 #label BEG

REFERENCE A60709
 #authors Baeza, M.L.; Reddigari, S.R.; Kornfeld, D.; Ramani, N.; Smith, E.M.; Hossler, P.A.; Fischer, T.; Castor, C.W.; Gorevic, P.G.; Kaplan, A.P.
 #journal J. Clin. Invest. (1990) 85:1516-1521
 #title Relationship of one form of human histamine-releasing factor to connective tissue activating peptide-III.
 #cross-references MUID:90237229
 #accession A60709
 #molecule_type protein
 #residues 44-62, 'X', 64-79 #label BAE

REFERENCE A61240
 #authors Kaplan, A.P.; Baeza, M.; Reddigari, S.; Kuna, P.
 #journal Int. Arch. Allergy Appl. Immunol. (1991) 94:148-153
 #title Histamine-releasing factors.
 #cross-references MUID:92040226
 #accession A61240
 #molecule_type protein
 #residues 44-61, XX', 64 #label KAP

#accession B61240
 #molecule_type protein
 #residues 59-62, 'X', 64-79 #label KA2
 REFERENCE S46247
 #authors Kungl, A.J.; Machius, M.; Huber, R.; Schwer, C.; Lam, C.; Aschauer, H.; Ehn, G.; Lindley, I.J.D.; Auer, M.

#journal FEBS Lett. (1994) 347:300-303
 #title Purification, crystallization and preliminary X-ray

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diffraction analysis of recombinant human
neutrophil-activating peptide 2 (rhNAP-2).
#cross-references MUID:94307404
#contents annotation
COMMENT There appears to be a second beta-thromboglobulin-like human gene.
COMMENT Connective-tissue activating peptides (CTAP) are a group of
proteins capable of activating connective tissue cells. CTAP-I,
-II, -III and -P2, and -PMN are of lymphoid, tumor cell, human
platelet, and polymorphonuclear leukocyte origin, respectively.
CTAP-III, a monomer isolated from platelets, stimulates DNA
synthesis, mitosis, glycolysis, intracellular cAMP accumulation,
prostaglandin E2 secretion, and synthesis of hyaluronic acid and
sulfated glycosaminoglycan. It also stimulates the formation and
secretion of plasminogen activator by human synovial cells.
COMMENT Proteolytic removal of the first four residues of CTAP-III produces
the active peptide beta-thromboglobulin, which is released from
platelets along with platelet factor 4 and platelet-derived
growth factor.
GENETICS
#gene GDB:PPBP; THGB1
#map_position 4p12-4q13
#cross-references GDB:127391; OMIM:121010
#introns 50/1; 95/2
CLASSIFICATION #superfamily beta-thromboglobulin
KEYWORDS growth factor; homotetramer; platelet
FEATURE
1-34
35-43
44-128
48-128
59-128
63-89,65-105
SUMMARY #length 128 #molecular-weight 13894 #checksum 6910
Query Match 69.5%; Score 57; DB 1; Length 128;
Best Local Similarity 50.0%; Pred. No. 1.83e-01;
Matches 6; Conservative 3; Mismatches 3; Indels 0; Gaps 0;
Db 103 KICLDPAPRIK 114
| | | | | |
QY 1 KACLNPAPIV 12
RESULT 9
ENTRY B54188 #type complete
TITLE granulocyte chemotactic protein, GCP-2 - bovine
ORGANISM #formal_name Bos primigenius taurus #common_name cattle
DATE 13-Sep-1994 #sequence_revision 18-Nov-1994 #text_change
12-Apr-1995
ACCESSIONS B54188
REFERENCE A54188
#authors Proost, P.; Wuyts, A.; Conings, R.; Lenaerts, J.P.; Billiau,
A.; Opdenakker, G.; Van Damme, J.
#journal Biochemistry (1993) 32:10170-10177
#title Human and bovine granulocyte chemotactic protein-2: complete
amino acid sequence and functional characterization as
chemokines.
#cross-references MUID:94001982
#accession B54188
#status preliminary
#molecule_type protein
#residues 1-75 #label PRO
#experimental_source MDBK cells
#note sequence extracted from NCBI backbone (NCBIP:137967)
CLASSIFICATION #superfamily beta-thromboglobulin
SUMMARY #length 75 #molecular-weight 7931 #checksum 8842
Query Match 68.3%; Score 56; DB 2; Length 75;
Best Local Similarity 50.0%; Pred. No. 3.04e-01;
Matches 5; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

#domain signal sequence #status predicted #label SIG\
#domain propeptide #status predicted #label PRO\
#product connective-tissue activating peptide III
#status experimental #label CTAP\
#product beta-thromboglobulin #status experimental
#label BTG\
#product neutrophil-activating peptide 2 #status
experimental #label NAP2\
#disulfide_bonds #status experimental
SUMMARY #length 128 #molecular-weight 13894 #checksum 6910
Query Match 69.5%; Score 57; DB 1; Length 128;
Best Local Similarity 50.0%; Pred. No. 1.83e-01;
Matches 6; Conservative 3; Mismatches 3; Indels 0; Gaps 0;
Db 103 KICLDPAPRIK 114
| | | | | |
QY 1 KACLNPAPIV 12

Db 54 CLDPEAPLIK 63
| | | | | |
QY 3 CLNPASPIV 12

RESULT 10
ENTRY I48130 #type complete
TITLE cytochrome P450 1B1 - rat
ALTERNATE_NAMES cytochrome P450RAP
ORGANISM #formal_name Rattus norvegicus #common_name Norway rat
DATE 15-Mar-1996 #sequence_revision 15-Mar-1996 #text_change
05-Mar-1999
ACCESSIONS I48130; I52733
REFERENCE A56445
#authors Bhattacharyya, K.K.; Brake, P.B.; Eltom, S.E.; Otto, S.A.;
Jefcoate, C.R.
#journal J. Biol. Chem. (1995) 270:11595-11602
#title Identification of a rat adrenal cytochrome P450 active in
polycyclic hydrocarbon metabolism as rat CYP1B1.
Demonstration of a unique tissue-specific pattern of
hormonal and aryl hydrocarbon receptor-linked regulation.
#cross-references MUID:95263485
#accession I48130
#status preliminary
#molecule_type mRNA
#residues 1-543 #label RES
#cross-references EMBL:X83867; NID:9853813; PID:9853814
REFERENCE I52733
#authors Walker, N.J.; Gastel, J.A.; Costa, L.T.; Clark, G.C.; Lucier,
G.W.; Sutter, T.R.
#journal Carcinogenesis (1995) 16:1319-1327
#title Rat CYP1B1: an adrenal cytochrome P450 that exhibits
sex-dependent expression in livers and kidneys of
TCDD-treated animals.
#cross-references MUID:95308679
#accession I52733
#status preliminary; translated from GB/EMBL/DBJ
#molecule_type mRNA
#residues 1-543 #label RE2
#cross-references EMBL:U09540; NID:91039376; PID:91039377
GENETICS
#gene CYP1B1
CLASSIFICATION #superfamily human cytochrome P450 CYP2D6; cytochrome P450
homology
KEYWORDS chromoprotein; heme
FEATURE
470
#binding_site heme iron (Cys) (axial ligand) #status
predicted
SUMMARY #length 543 #molecular-weight 60556 #checksum 2773
Query Match 68.3%; Score 56; DB 2; Length 543;
Best Local Similarity 60.0%; Pred. No. 3.04e-01;
Matches 6; Conservative 3; Mismatches 1; Indels 0; Gaps 0;
Db 189 ACLDPTQPII 198
| | | | | |
QY 2 ACLNPASPIV 11
RESULT 11
ENTRY S58444 #type fragment
TITLE SUP35 protein - African clawed frog (fragment)
ORGANISM #formal_name Xenopus laevis #common_name African clawed frog
DATE 10-Apr-1996 #sequence_revision 19-Apr-1996 #text_change
17-Mar-1999
ACCESSIONS S58444
REFERENCE S58444
#authors Zhouravleva, G.; Frolova, L.; le Goff, X.; le Guellec, R.;
Inge-Vechtomov, S.; Kisselev, L.; Philippe, M.
#journal EMBO J. (1995) 14:4063-4072
#title Termination of translation in eukaryotes is governed by two
interacting polypeptide chain release factors, eRF1 and

```

```
ERF3.
#cross-references MUID:95393983
#accession S58444
##status preliminary
##molecule_type mRNA
##residues 1-614 ##label ZHO
##cross-references EMBL:L37045; NID:g976219
##note the authors translated the codon AGG for residue 573 as
      Glu
CLASSIFICATION #superfamily translation elongation factor Tu homology
KEYWORDS GTP binding; P-loop
FEATURE 190-338
196-203 #domain translation elongation factor Tu homology #label
335-338 ERF1\
SUMMARY #region nucleotide-binding motif A (P-loop)\
      #length 614 #checksum 4981
Query Match 68.3%; Score 56; DB 2; Length 614;
Best Local Similarity 45.5%; Pred. No. 3.04e-01;
Matches 5; Conservative 5; Mismatches 1; Indels 0; Gaps 0;
Db 20 PCITPSAPLIK 30
QY 2 ACLNPASPIVK 12
      :|||:|:|:|
RESULT 12
ENTRY I64831 #type fragment
TITLE gene KC protein - rat (fragment)
ORGANISM #formal_name Rattus sp. #common_name rat
DATE 02-Aug-1996 #sequence_revision 02-Aug-1996 #text_change
23-Feb-1997
ACCESSIONS I64831
REFERENCE I51886
#authors Huang, S.; Paulauskis, J.D.; Godleski, J.J.; Kobzik, L.
#journal Am. J. Pathol. (1992) 141:981-988
#title Expression of macrophage inflammatory protein-2 and KC mRNA
in pulmonary inflammation.
#cross-references MUID:93035653
#accession I64831
##status preliminary; translated from GB/EMBL/DBJ
##molecule_type mRNA
##residues 1-53 ##label RES
##cross-references GB:S45856; NID:g257055
GENETICS
#gene KC
CLASSIFICATION #superfamily beta-thromboglobulin
SUMMARY #length 53 #checksum 8839
Query Match 67.1%; Score 55; DB 2; Length 53;
Best Local Similarity 60.0%; Pred. No. 5.02e-01;
Matches 6; Conservative 3; Mismatches 1; Indels 0; Gaps 0;
Db 39 ACLDPEAPV 48
QY 2 ACLNPASPIV 11
      |||:|:|:|
RESULT 13
ENTRY A32954 #type complete
TITLE gro-alpha precursor - mouse
ALTERNATE_NAMES gro protein; growth regulated protein; melanoma
growth-stimulating activity factor; melanoma mitogenic
protein; secretory protein N51
ORGANISM #formal_name Mus musculus #common_name house mouse
DATE 20-Oct-1989 #sequence_revision 20-Oct-1989 #text_change
08-Sep-1997
ACCESSIONS A32954; JH0081
REFERENCE A32954
#authors Oquendo, P.; Alberta, J.; Wen, D.; Graycar, J.L.; Derynck,
R.; Stiles, C.D.
#journal J. Biol. Chem. (1989) 264:4133-4137

#title The platelet-derived growth factor-inducible KC gene encodes
a secretory protein related to platelet alpha-granule
proteins.
#cross-references MUID:89139485
#accession A32954
##molecule_type mRNA
##residues 1-96 ##label OQU
##cross-references GB:J04596; NID:g201042; PID:g201043
REFERENCE JH0081
#authors Ryseck, R.P.; MacDonald-Bravo, H.; Mattel, M.G.; Bravo, R.
#journal Exp. Cell Res. (1989) 180:266-275
#title Cloning and sequence of a secretory protein induced by growth
factors in mouse fibroblasts.
#cross-references MUID:89078502
#accession JH0081
##molecule_type mRNA
##residues 1-96 ##label RYS
COMMENT This protein is basic and lacks threonine, phenylalanine, and
tyrosine.
GENETICS
#map_position 5
CLASSIFICATION #superfamily beta-thromboglobulin
KEYWORDS extracellular protein
FEATURE 1-24
25-96 #domain signal sequence #status predicted #label SIG\
SUMMARY #product gro-alpha #status predicted #label MAT
      #length 96 #molecular-weight 10254 #checksum 5052
Query Match 67.1%; Score 55; DB 2; Length 96;
Best Local Similarity 60.0%; Pred. No. 5.02e-01;
Matches 6; Conservative 3; Mismatches 1; Indels 0; Gaps 0;
Db 74 ACLDPEAPLV 83
QY 2 ACLNPASPIV 11
      |||:|:|:|
RESULT 14
ENTRY JN0572 #type complete
TITLE neutrophil chemo-attractant Gro protein precursor - rat
ALTERNATE_NAMES CINC; cytokine-induced neutrophil chemoattractant;
interleukin-8-like chemokine
ORGANISM #formal_name Rattus norvegicus #common_name Norway rat
DATE 30-Sep-1993 #sequence_revision 30-Sep-1993 #text_change
08-Sep-1997
ACCESSIONS JN0572; JQ1519; A34481; A48988; B48988; S51214
REFERENCE JN0572
#authors Konishi, K.; Takata, Y.; Yamamoto, M.; Yomogida, K.;
Watanabe, K.; Tsurufuji, S.; Fujioka, M.
#journal Gene (1993) 126:285-286
#title Structure of the gene encoding rat neutrophil
chemo-attractant Gro.
#cross-references MUID:93246259
#accession JN0572
##molecule_type DNA
##residues 1-96 ##label KON
##cross-references DDBJ:D11445; NID:g391854; PID:d1002491; PID:g220755
REFERENCE JQ1519
#authors Huang, S.; Paulauskis, J.D.; Kobzik, L.
#journal Biochem. Biophys. Res. Commun. (1992) 184:922-929
#title Rat KC cDNA cloning and mRNA expression in lung macrophages
and fibroblasts.
#cross-references MUID:92246987
#accession JQ1519
##molecule_type mRNA
##residues 1-32, 'S', 34-96 ##label HUA
##cross-references GB:M6536
##experimental_source alveolar macrophage
##note the authors translated the codon AGT for residue 33 as
Cys, AAC for residue 46 as Gln
REFERENCE A34481
#authors Watanabe, K.; Konishi, K.; Fujioka, M.; Kinoshita, S.;
Nakagawa, H.
```


#journal J. Biol. Chem. (1989) 264:19559-19563
#title The neutrophil chemoattractant produced by the rat kidney
epithelial cell line NRK-52E is a protein related to the
KC/gro protein.
#cross-references MUID:90062049
#accession A34481
##molecule_type protein
##residues 25-96 ##label WAT

REFERENCE
#authors Nakagawa, H.; Ikesue, A.; Hatakeyama, S.; Kato, H.; Gotoda,
T.; Komorita, N.; Watanabe, K.; Miyai, H.
#journal Biochem. Pharmacol. (1993) 45:1425-1430
#title Production of an interleukin-8-like chemokine by
cytokine-stimulated rat NRK-49F fibroblasts and its
suppression by anti-inflammatory steroids.
#cross-references MUID:93228656
#accession A48988
##status preliminary
##molecule_type protein
##residues 25-57 ##label NAK
##experimental_source kidney, NRK-49F fibroblasts
##note sequence extracted from NCBI backbone (NCBIP:129132)
#accession B48988
##status preliminary
##molecule_type protein
##residues 25-57 ##label NAK
##experimental_source kidney, NRK-49F fibroblasts
##note sequence extracted from NCBI backbone (NCBIP:129131)

REFERENCE
#authors Hanzawa, H.; Haruyama, H.; Watanabe, K.; Tsurufuji, S.
#journal FEBS Lett. (1994) 354:207-212
#title The three dimensional structure of rat cytokine CINC/Gro in
solution by homonuclear 3D NMR.
#cross-references MUID:95046335
#contents annotation; conformation by (1)H-NMR, residues 25-96
#accession S51214
##molecule_type protein
##residues 25-96 ##label HAN

COMMENT This protein has chemotactic activity for neutrophils and has
melanoma growth-stimulating activity.

GENETICS
#gene gro; KC
#introns 24/1; 65/2; 92/2
CLASSIFICATION #superfamily beta-thromboglobulin
KEYWORDS cytokine; disulfide bond
FEATURE 1-24
25-96

SUMMARY #length 96 #molecular-weight 10249 #checksum 5749

Query Match 67.1%; Score 55; DB 2; Length 96;
Best Local Similarity 60.0%; Pred. No. 5.02e-01;
Matches 6; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

Db 74 ACLDPEAPMV 83
| | | : | : |
QY 2 ACLNPASPIV 11

RESULT 15

ENTRY I51886 #type fragment
TITLE macrophage inflammatory protein-2 - rat (fragment)
ORGANISM #formal_name Rattus sp. #common_name rat
DATE 12-Aug-1996 #sequence_revision 12-Aug-1996 #text_change
16-Feb-1997

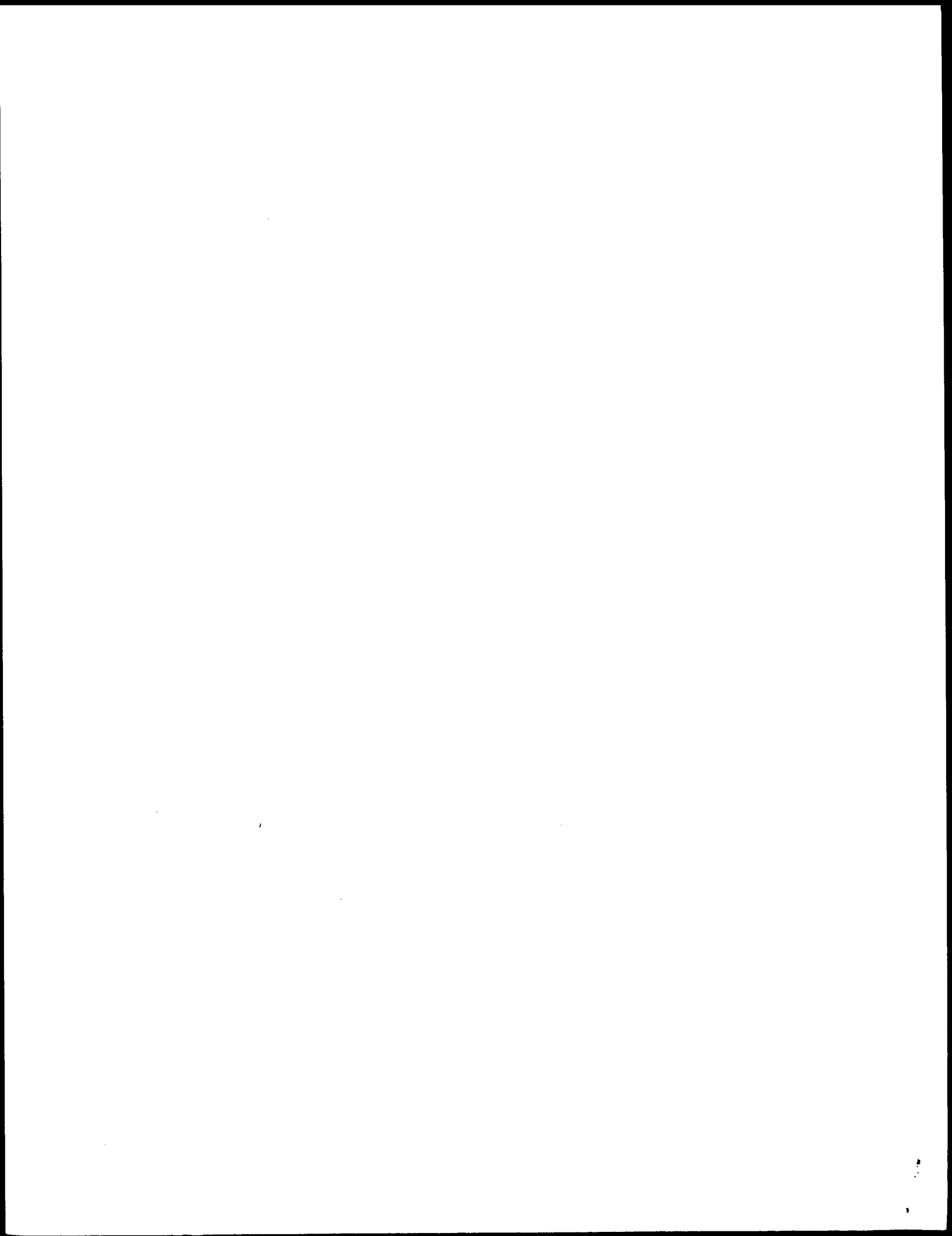
ACCESSIONS I51886
REFERENCE I51886
#authors Huang, S.; Paulauskis, J.D.; Godleski, J.J.; Kobzik, L.
#journal Am. J. Pathol. (1992) 141:981-988
#title Expression of macrophage inflammatory protein-2 and KC mRNA
in pulmonary inflammation.
#cross-references MUID:93035653

#accession I51886 Preliminary; translated from GB/EMBL/DBJ
##status preliminary; translated from GB/EMBL/DBJ
##molecule_type mRNA
##residues 1-53 ##label RES
##cross-references GB:S45855; NID:g257054
CLASSIFICATION #superfamily beta-thromboglobulin
SUMMARY #length 53 #checksum 9622

Query Match 64.6%; Score 53; DB 2; Length 53;
Best Local Similarity 66.7%; Pred. No. 1.35e+00;
Matches 6; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 40 CLNPEAPLV 48
| | | | : | : |
QY 3 CLNPASPIV 11

Search completed: Fri Feb 4 18:02:50 2000
Job time : 27 secs.



MIP-2beta (TM)

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MPsrch_pp protein - protein database search, using Smith-Waterman algorithm

Run on: Fri Feb 4 18:01:46 2000; Maspar time 3.52 Seconds
72.537 Million cell updates/sec
Tabular output not generated.

Title: >US-09-150-813-72
Description: (1-12) from US09150813.pep
Perfect Score: 82
Sequence: 1 KACLNPAPIVK 12
Scoring table: PAM 150
Gap 15

Searched: 170751 seqs, 21266608 residues
Post-processing: Minimum Match 0%
Listing first 45 summaries

Database: a-geneseq35
1:part1 2:part2 3:part3 4:part4 5:part5 6:part6 7:part7
8:part8 9:part9 10:part10 11:part11 12:part12 13:part13
14:part14 15:part15 16:part16 17:part17 18:part18
19:part19 20:part20 21:part21 22:part22 23:part23
24:part24 25:part25 26:part26 27:part27 28:part28
29:part29 30:part30 31:part31 32:part32 33:part33
34:part34 35:part35 36:part36 37:part37 38:part38
39:part39

Statistics: Mean 16.819; Variance 48.942; scale 0.344
Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

| SUMMARIES | | | | | |
|------------|-------|-------------|--------|-----------------------|-----------|
| Result No. | Score | Query Match | Length | Description | Pred. No. |
| 1 | 82 | 100.0 | 70 20 | Chemokine-like protei | 1.21e-02 |
| 2 | 82 | 100.0 | 73 39 | Human mature gro-alm | 1.21e-02 |
| 3 | 82 | 100.0 | 73 24 | Human chemokine gro a | 1.21e-02 |
| 4 | 82 | 100.0 | 73 25 | Human chemokine gro a | 1.21e-02 |
| 5 | 82 | 100.0 | 73 12 | Human gro-alpha chemo | 1.21e-02 |
| 6 | 82 | 100.0 | 101 20 | Chemokine-like protei | 1.21e-02 |
| 7 | 82 | 100.0 | 107 13 | Melanoma growth stimu | 1.21e-02 |
| 8 | 77 | 93.9 | 73 39 | Human gro-beta polype | 5.07e-02 |
| 9 | 77 | 93.9 | 73 25 | Human chemokine gro b | 5.07e-02 |
| 10 | 77 | 93.9 | 73 24 | Human chemokine gro b | 5.07e-02 |
| 11 | 77 | 93.9 | 73 12 | Human gro-beta chemok | 5.07e-02 |
| 12 | 77 | 93.9 | 73 7 | MIP-2alpha | 5.07e-02 |
| 13 | 77 | 93.9 | 102 13 | Gro-beta/MIP-2-alpha | 5.07e-02 |
| 14 | 77 | 93.9 | 107 4 | Human Gro beta cytol | 5.07e-02 |
| 15 | 77 | 93.9 | 107 4 | Human macrophage infl | 5.07e-02 |
| 16 | 77 | 93.9 | 107 4 | Human macrophage infl | 5.07e-02 |

| | | | | | | |
|----|----|------|--------|--------|-----------------------|----------|
| 17 | 75 | 91.5 | 11 20 | R99808 | Active domain from me | 8.93e-02 |
| 18 | 71 | 86.6 | 24 11 | R58627 | putative glycan bindi | 2.75e-01 |
| 19 | 71 | 86.6 | 24 35 | W70292 | GRO alpha. | 2.75e-01 |
| 20 | 70 | 85.4 | 73 39 | W81500 | Human mature gro-gamm | 3.63e-01 |
| 21 | 70 | 85.4 | 73 25 | W18026 | Human chemokine gro g | 3.63e-01 |
| 22 | 70 | 85.4 | 73 17 | R93194 | Protein used to gener | 3.63e-01 |
| 23 | 70 | 85.4 | 73 24 | W17672 | Human chemokine gro g | 3.63e-01 |
| 24 | 70 | 85.4 | 73 12 | R66700 | Human gro-gamma chemo | 3.63e-01 |
| 25 | 70 | 85.4 | 73 7 | R36772 | MIP-2beta. | 3.63e-01 |
| 26 | 70 | 85.4 | 73 23 | W12434 | Chimeric interleukin- | 3.63e-01 |
| 27 | 70 | 85.4 | 106 4 | R23035 | Human gro gamma cytot | 3.63e-01 |
| 28 | 70 | 85.4 | 107 4 | R20590 | Human macrophage infl | 3.63e-01 |
| 29 | 70 | 85.4 | 107 13 | R20530 | Human macrophage infl | 3.63e-01 |
| 30 | 70 | 85.4 | 107 13 | R70794 | Gro-gamma/MIP-2-beta. | 3.63e-01 |
| 31 | 60 | 73.2 | 113 32 | W50983 | Amino acid sequence o | 5.81e+00 |
| 32 | 58 | 70.7 | 100 4 | R20528 | Murine macrophage inf | 9.57e+00 |
| 33 | 58 | 70.7 | 100 4 | R20588 | Murine macrophage inf | 9.57e+00 |
| 34 | 58 | 70.7 | 100 26 | R05790 | Macrophage derived in | 9.57e+00 |
| 35 | 57 | 69.5 | 32 13 | R70805 | Heparanase C-terminal | 1.25e+01 |
| 36 | 57 | 69.5 | 70 7 | R36775 | NAP-2. | 1.25e+01 |
| 37 | 57 | 69.5 | 75 25 | W26467 | Neutrophil-activating | 1.25e+01 |
| 38 | 57 | 69.5 | 75 16 | R86011 | Synthetic NAP-2V. | 1.25e+01 |
| 39 | 57 | 69.5 | 85 1 | R05550 | Connective tissue act | 1.25e+01 |
| 40 | 57 | 69.5 | 85 3 | P50526 | Sequence encoded by s | 1.25e+01 |
| 41 | 57 | 69.5 | 85 13 | R70786 | CTAP-III heparanase. | 1.25e+01 |
| 42 | 57 | 69.5 | 94 13 | R70787 | Platelet basic protei | 1.25e+01 |
| 43 | 57 | 69.5 | 128 3 | R13519 | Leukocyte derived gro | 1.25e+01 |
| 44 | 57 | 69.5 | 128 1 | R05767 | Precursor of platelet | 1.25e+01 |
| 45 | 57 | 69.5 | 128 3 | R13520 | Leukocyte derived gro | 1.25e+01 |

ALIGNMENTS

RESULT 1
ID R99809 standard; peptide; 70 AA.
AC R99809;
DE 22-MAR-1997 (first entry)
KW Chemokine-like protein PF4-414.
KW Human; chemokine; PF4-414; platelet factor-4; mutant; Gro-alpha;
KW active domain; melanoma growth stimulating factor-alpha;
KW myelosuppressive; cytostatic; antitumour; leukaemia;
KW polycythaemia vera; hypermakaryocytopenia; therapy; diagnostic;
KW myeloid progenitor cell; expansion; bone marrow transplantation.
OS Homo sapiens.
FH Key
FT Location/Qualifiers
FT active_site 7..9
FT /note= "Platelet factor-4 active domain (R99823,
FT claim 1)"
FT misc_difference 10
FT /note= "Conserved Cys residue"
FT misc_difference 12
FT /note= "Conserved Cys residue"
FT misc_difference 36
FT /note= "Conserved Cys residue"
FT active_site 49..59
FT /note= "Gro-alpha active domain (R99808, claim 13)"
FT misc_difference 52
FT /note= "Conserved Cys residue"
FT WO9613587-A1.
FT 09-MAY-1996.
FT 26-OCT-1995; U13897.
FT 26-OCT-1994; US-330163.
FT 07-JUN-1995; US-482111.
FT (REPK) REPLIGEN CORP.
FT Daly TJ, Larosa GJ;
FT WPI; 96-239500/24.
FT N-PSDB; T30206.
FT Chemokine-like proteins with active domains from different
FT chemokine(s) - provide modified activities, which exhibit high
FT myelo-suppressive activity
FT Claim 14; Page 80; 115pp; English.
CC This is a novel chemokine-like protein (PF4-414), based on platelet
CC factor-4 (PF-4), with 4 conserved cysteine residues. The protein

CC has been modified by replacing the 2nd active domain (DLQ, R92319)
 CC with an active domain from melanoma growth stimulating factor-alpha
 CC (gro-alpha, R9808). The resulting protein has the PF-4 1st active
 CC domain, DLQ, before the 1st Cys residue, and the gro-alpha domain
 CC replaces a 2nd DLQ sequence present in wild-type PF-4 after the 4th
 CC Cys residue. A version with a signal peptide is given in R92318.
 CC The sequence has been derived by mutagenesis of wild-type PF-4
 CC (R9813). The active domains are required for myelosuppressive
 CC activity. The novel chemokine shows higher activity than the wild-
 CC type, and may be used to suppress proliferation of actively dividing
 CC myeloid cells, as an adjunctive agent in chemotherapy or radiation
 CC therapy, in therapy of myelogenous leukaemia, polycythaemia vera or
 CC hypermegakaryocytopoietic disorders, or to detect, isolate and expand
 CC progenitor cells ex vivo for transplantation. The protein does not
 CC show adverse neutrophil activation or inflammatory side-effects.
 CC Sequence 70 AA;

Query Match 100.0%; Score 82; DB 20; Length 70;
 Best Local Similarity 100.0%; Pred. No. 1.21e-02;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 50 kaclnpaspivk 61
 |||||
 QY 1 KACLNPA SPIVK 12

RESULT 2

ID W81498 standard; Protein; 73 AA.

AC W81498; 1999 (first entry)

DT Human mature gro-alpha polypeptide used to treat sepsis.

DE Gro-alpha; chemokine; human; sepsis; septic shock; therapy.

KW Homo sapiens.

OS W09848828-A1.

PN W09848828-A1.

PD 05-NOV-1998.

PF 29-APR-1998; U08742.

PR 29-APR-1997; US-846966.

PA (SMIK) SMITHKLINE BEECHAM CORP.

PI Demarsh PL, Johanson KO;

DR WPI; 99-024031/02.

PT Treating and preventing sepsis in animals - by using two modified

PT gro b chemokines in conjunction with an anti-infective agent

PS Example 1; Page 18; 26pp; English.

CC This is the amino acid sequence of the human gro-alpha chemokine

CC mature polypeptide. The invention relates to a method of preventing

CC and treating sepsis using chemokines selected from mature or

CC modified murine KC (see W81497), or human gro-alpha, gro-beta (see

CC W81499) or gro-gamma (see W81499). A claimed method uses a dimer

CC composed of 2 modified gro-beta chemokines. Further claimed is

CC administering the chemokine in conjunction with an anti-infective

CC agent. The chemokines described in this invention are required to

CC treat and prevent sepsis since antimicrobial agents alone have

CC failed to abrogate septic mortality.

CC Sequence 73 AA;

Query Match 100.0%; Score 82; DB 39; Length 73;
 Best Local Similarity 100.0%; Pred. No. 1.21e-02;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 49 kaclnpaspivk 60
 |||||
 QY 1 KACLNPA SPIVK 12

RESULT 3

ID W17670 standard; Protein; 73 AA.

AC W17670; 1997 (first entry)

DT Human chemokine gro alpha.

DE Gro alpha; chemokine; interleukin; myelosuppression;

KW immunosuppression; haematopoietic cell; infection; cancer;

KW aplastic anaemia; autoimmune disease; stem cell transplant;

KW therapy.

OS Homo sapiens.
 FH Key
 FT protein
 FT 5..73
 FT /note= "preferred polypeptide (Claim 3)"
 PN W09715595-A1.
 PD 01-MAY-1997.
 PR 24-OCT-1996; U17074.
 PR 24-OCT-1995; US-547262.
 PA (SMIK) SMITHKLINE BEECHAM CORP.
 PI King AG, Pelus LM;
 PI WPI; 97-25895/23.
 DR Use of specific chemokine(s) for stem cell mobilisation - useful for
 PT treating myelosuppression or any condition involving
 PT immunosuppression or low levels of haematopoietic cells
 PT Claim 1; Page 20; 31pp; English.
 PS This polypeptide sequence comprises human gro alpha. Use of
 CC mammalian chemokines selected from gro alpha, gro beta (W17671),
 CC gro gamma (W17672) or KC (W17669) for mobilising haematopoietic
 CC cells is claimed. The chemokines, optionally used together with a
 CC growth factor or other haematopoietic regulator, are used to treat
 CC myelosuppression or any condition that involves immunosuppression
 CC or low levels of haematopoietic cells, e.g. infection, cancer,
 CC myelopoietic dysfunction, haematopoietic disorders, aplastic anaemia
 CC or autoimmune disease, or low production/differentiation of
 CC haematopoietic or bone marrow cells. A claimed application is in
 CC peripheral blood stem cell transplants in patients being treated by
 CC chemotherapy. Chemokines having an N-terminal deletion are more
 CC active, e.g. by 2 orders of magnitude, than the full-length protein.
 CC When used with a colony stimulating factor (CSF), a synergistic
 CC effect is achieved and the dose, and side-effects, of CSF can be
 CC reduced. Compared with conventional methods of stem cell transplants,
 CC use of mammalian chemokines provides a more rapid release of
 CC peripheral blood mononuclear cells and/or platelets, reducing risk of
 CC infection and allowing use of higher doses of chemotherapeutic
 CC agents.
 CC Sequence 73 AA;

Query Match 100.0%; Score 82; DB 24; Length 73;
 Best Local Similarity 100.0%; Pred. No. 1.21e-02;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 49 kaclnpaspivk 60
 |||||
 QY 1 KACLNPA SPIVK 12

RESULT 4

ID W18024 standard; protein; 73 AA.

AC W18024; 1998 (first entry)

DT Human chemokine gro alpha.

DE Sepsis; septic shock; therapy; gro alpha; chemokine; human.

KW Homo sapiens.

OS Homo sapiens.

PN Key

PI Protein

Query Match 100.0%; Score 82; DB 24; Length 73;
 Best Local Similarity 100.0%; Pred. No. 1.21e-02;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 49 kaclnpaspivk 60

QY 1 KACLNPA SPIVK 12

PN W09719173-A1.

PR 29-MAY-1997.

PR 20-NOV-1996; U18616.

PR 21-NOV-1995; US-007425.

PA (SMIK) SMITHKLINE BEECHAM CORP.

PI DeMarsh PL, Johanson KO;

DR WPI; 97-29811/27.

PT Use of chemokine(s) such as KC and gro-alpha - to treat or prevent

PT sepsis, particularly septic shock

PS Claim 1; Page 18-19; 28pp; English.

CC A claimed method of treating or preventing sepsis comprises

CC administering to an animal an effective amount of a chemokine

CC selected from mature murine KC (see W18023), human gro alpha

CC (W18024), human gro beta (see W18025) and human gro gamma (see

CC W18026), modified fragments of these chemokines and multimeric

CC proteins comprising an association of two chemokine proteins.

CC Sepsis can occur in hospitalised patients, and a consequence of
 CC bacterial sepsis is septic shock. The method of the invention
 CC provides a treatment for sepsis, particularly septic shock, which
 CC is a major cause of death in intensive care units. Septic shock
 CC syndrome apparently has intractable resistance to the effects of
 CC a variety of highly potent antimicrobial agents. Survival is
 CC increased by treatment with the chemokines, both prophylactically
 CC and after infection.
 SQ Sequence 73 AA;

Query Match 100.0%; Score 82; DB 25; Length 73;
 Best Local Similarity 100.0%; Pred. No. 1.21e-02;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 49 kacInpaspivk 60
 |||||
 QY 1 KACLNPASPIVK 12

RESULT 5
 ID R6698 standard; protein; 73 AA.
 AC R6698;
 DE 19-JUL-1995 (first entry)
 DE Human gro-alpha chemokine;
 KW Gro-alpha protein; chemokine; inflammation; antiinflammatory;
 KW hematopoietic synergistic factor; HSF; hematopoietic precursor;
 KW bone marrow; intercrine; desamino gro-alpha; truncation.
 OS Homo sapiens.
 FH Key Location/Qualifiers
 FT Protein
 FT 5..732
 FT /note= "desamino truncated gro-alpha, claim 7,
 FT page 69"
 FT
 PN WO9429341-A.
 PD 22-DEC-1994.
 PD 03-JUN-1994; U06264.
 PR 08-JUN-1993; US-073800.
 PA (SMIK) SMITHKLINE BEECHAM CORP.
 PI Balcarek JM, Bhatnagar P, King AG, Pelus LM;
 DR WPI; 95-036402/05.
 DR New truncated chemokine with increased biological activity - and
 PT related multimers, nucleic acid, antibodies etc., for treating
 PT inflammation, stimulating growth of bone marrow etc., also
 PT peptide(s) for inducing haematopoietic synergistic factor.
 PS Disclosure; Page 51; 89pp; English.
 CC Truncated, desamino chemokine comprising amino acids 5-73 of
 CC human mature gro-alpha (full sequence given in R66698)
 CC shows enhanced biological activity when compared to the mature
 CC protein, and has been used to prepare multimeric, modified
 CC chemokines.
 SQ Sequence 73 AA;

Query Match 100.0%; Score 82; DB 12; Length 73;
 Best Local Similarity 100.0%; Pred. No. 1.21e-02;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 49 kacInpaspivk 60
 |||||
 QY 1 KACLNPASPIVK 12

RESULT 6
 ID R92318 standard; peptide; 101 AA.
 AC R92318;
 DE 28-MAR-1997 (first entry)
 DE Chemokine-like protein PF4-414.
 KW Human; chemokine; PF4-414; platelet factor-4; mutant; Gro-alpha;
 KW active domain; melanoma growth stimulating factor-alpha;
 KW myelosuppressive; cytostatic; antitumour; leukaemia;
 KW polycythaemia vera; hypermakaryocytopoiesis; therapy; diagnostic;
 KW myeloid progenitor cell; expansion; bone marrow transplantation.
 OS Homo sapiens.
 FH Key Location/Qualifiers
 FT peptide
 FT 1..31

FT peptide /note= "Signal peptide"
 FT 32..101
 FT /note= "Mature PF4-414 (R99809, claim 14)"
 FT active_site 38..40
 FT /note= "Platelet factor-4 active domain (R99823,
 FT claim 1)"
 FT misc_difference 41
 FT /note= "Conserved Cys residue"
 FT misc_difference 43
 FT /note= "Conserved Cys residue"
 FT misc_difference 67
 FT /note= "Conserved Cys residue"
 FT active_site 80..90
 FT /note= "Gro-alpha active domain (R99808, claim 13)"
 FT misc_difference 83
 FT /note= "Conserved Cys residue"
 PN WO9613587-A1.
 PD 09-MAY-1996.
 PD 26-OCT-1995; U13897.
 PR 26-OCT-1994; US-330163.
 PR 07-JUN-1995; US-482111.
 PR (REPK) REPLIGEN CORP.
 PI Daly TJ, Larosa GJ;
 DR WPI; 96-239500/24.
 DR N-PSDB; T30206.
 DR Chemokine(s) - provide modified activities, which exhibit high
 PT myelo-suppressive activity
 PS Disclosure; Fig 3C; 115pp; English.
 CC This is a novel chemokine-like protein (PF4-414), based on platelet
 CC factor-4 (PF-4), with 4 conserved cysteine residues. The protein
 CC has been modified by replacing the 2nd active domain (DLQ, R92319)
 CC with an active domain from melanoma growth stimulating factor-alpha
 CC (Gro-alpha, R99808). The resulting protein has the PF-4 1st active
 CC domain, DLQ, before the 1st Cys residue, and the Gro-alpha domain
 CC replaces a 2nd DLQ sequence present in wild-type PF-4 after the 4th
 CC Cys residue. A version without the signal peptide is given in
 CC R99809 (claim 14). The sequence has been derived by mutagenesis of
 CC wild-type PF-4 (R99813). The active domains are required for
 CC myelosuppressive activity. The novel chemokine shows higher activity
 CC than the wild-type, and may be used to suppress proliferation of
 CC actively dividing myeloid cells, as an adjunctive agent in
 CC leukemia, polycythaemia vera or hypermakaryocytopoietic disorders,
 CC or to detect, isolate and expand progenitor cells ex vivo for
 CC transplantation. The protein does not show adverse neutrophil
 CC activation or inflammatory side-effects.
 SQ Sequence 101 AA;

Query Match 100.0%; Score 82; DB 20; Length 101;
 Best Local Similarity 100.0%; Pred. No. 1.21e-02;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 81 kacInpaspivk 92
 |||||
 QY 1 KACLNPASPIVK 12

RESULT 7
 ID R70792 standard; Protein; 107 AA.
 AC R70792;
 DE 29-AUG-1995 (first entry)
 DE Melanoma growth stimulatory activity.
 KW Melanoma growth stimulatory activity; gro/MGSA; heparanase; heparin;
 KW heparan sulfate; arthritis; restenosis; cancer; wound healing.
 OS Homo sapiens.
 PN WO9504158-A.
 PD 09-FEB-1995.
 PD 26-JUL-1994; U08207.
 PR 29-JUL-1993; US-099866.
 PR 13-OCT-1993; US-136117.
 PA (UPJO) UPJOHN CO.
 PI Hoogwerf AJ, Ledbetter SR;

DR WPI; 95-082239/11.
 PT N-PSDB; Q85362.
 PT Screening for cpds. with anti-heparanase activity - by detecting
 PT inhibition of heparin or heparan sulphate degradation,
 PT potentially useful for treating arthritis, restenosis, cancer.
 PS Claim 12; Page 39; 60pp; English.
 CC Purified heparanases, prepared under reducing conditions and
 CC activated with transglutaminase, are given in R70786-804. Most
 CC are prepared by reverse transcription of mRNA from activated human
 CC leukocytes, then cloning of the cDNA into pVL1392 baculovirus
 CC vector, and expression in Sf9 cells in the presence of reduced
 CC glutathione and dithiothreitol.
 SQ Sequence 107 AA;

Query Match 100.0%; Score 82; DB 13; Length 107;
 Best Local Similarity 100.0%; Pred. No. 1.21e-02;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 83 kaclnpaspvkv 94
 QY 1 KACLNPA SPIVK 12
 |||||

RESULT 8

ID W81499 standard; Protein; 73 AA.

AC W81499;
 DT 01-MAR-1999 (first entry)
 DE human gro-beta polypeptide used to treat sepsis.
 KW Gro-beta; chemokine; human; sepsis; septic shock; therapy.
 OS Mus sp.
 FH Key Location/Qualifiers
 FT Protein 5..73 /note= "claimed fragment"
 FT WO9848828-AL.
 PN 05-NOV-1998.
 PD 29-APR-1998; U08742.
 PR 29-APR-1997; US-846966.
 PA (SMIK) SMITHKLINE BEECHAM CORP.
 PI Demarsh PL, Johanson KO;
 WPI; 99-024031/02.

PT Treating and preventing sepsis in animals - by using two modified
 PT gro b chemokines in conjunction with an anti-infective agent
 PS Example 1; Page 18; 26pp; English.
 CC This is the amino acid sequence of the human chemokine gro-beta
 CC mature polypeptide. The invention relates to a method of
 CC preventing and treating sepsis using chemokines selected from
 CC mature or modified murine KC (see W81497), or human gro-alpha (see
 CC W81498), gro-beta or gro-gamma (see W81499). A claimed method uses
 CC a dimeric chemokine consisting of 2 covalently linked modified
 CC gro-beta proteins (amino acids 5-73 of the mature polypeptide)
 CC in which the proteins are linked by 2 intermolecular disulphide
 CC bonds between C5-C31 and C7-C47. Further claimed is administering
 CC the chemokine in conjunction with an anti-infective agent. The
 CC chemokines described in this invention are required to treat and
 CC prevent sepsis since antimicrobial agents alone have failed to
 CC abrogate septic mortality.
 SQ Sequence 73 AA;

Query Match 93.9%; Score 77; DB 39; Length 73;
 Best Local Similarity 91.7%; Pred. No. 5.07e-02;
 Matches 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Db 49 kaclnpaspvkv 60
 QY 1 KACLNPA SPIVK 12
 |||||

RESULT 9

ID W8025 standard; protein; 73 AA.

AC W8025;
 DT 30-JAN-1998 (first entry)
 DE Human chemokine gro beta.
 KW Sepsis; septic shock; therapy; gro beta; chemokine; human.

OS Homo sapiens.
 FH Key Location/Qualifiers
 FT Protein 5..73 /note= "preferred modified fragment of KC
 FT (Claim 2)"
 FT WO9719173-AL.
 PN 29-MAY-1997.
 PD 20-NOV-1996; U18616.
 PR 21-NOV-1995; US-007425.
 PA (SMIK) SMITHKLINE BEECHAM CORP.
 PI Demarsh PL, Johanson KO;
 WPI; 97-298111/27.
 PT Use of chemokine(s) such as KC and gro-alpha - to treat or prevent
 PT sepsis, particularly septic shock
 PS Claim 1; Page 19; 28pp; English.
 CC A claimed method of treating or preventing sepsis comprises
 CC administering to an animal an effective amount of a chemokine
 CC selected from mature murine KC (see W18023), human gro alpha (see
 CC W18024), human gro beta (W18025) and human gro gamma (see
 CC W18026), modified fragments of these chemokines and multimeric
 CC proteins comprising an association of two chemokine proteins.
 CC Sepsis can occur in hospitalised patients, and a consequence of
 CC bacterial sepsis is septic shock. The method of the invention
 CC provides a treatment for sepsis, particularly septic shock, which
 CC is a major cause of death in intensive care units. Septic shock
 CC syndrome apparently has intractable resistance to the effects of
 CC a variety of highly potent antimicrobial agents. Survival is
 CC increased by treatment with the chemokines, both prophylactically
 CC and after infection.
 SQ Sequence 73 AA;

Query Match 93.9%; Score 77; DB 25; Length 73;
 Best Local Similarity 91.7%; Pred. No. 5.07e-02;
 Matches 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Db 49 kaclnpaspvkv 60
 QY 1 KACLNPA SPIVK 12
 |||||

RESULT 10

ID W17671 standard; Protein; 73 AA.

AC W17671; 1997 (first entry)
 DT 25-NOV-1997 (first entry)
 DE Human chemokine gro beta.
 KW Gro beta; chemokine; interleukin; myelosuppression;
 KW immunosuppression; haematopoietic cell; infection; cancer;
 KW aplastic anaemia; autoimmune disease; stem cell transplant;
 KW therapy.
 OS Homo sapiens.

FH Key Location/Qualifiers
 FT protein 5..73 /note= "preferred polypeptide (Claim 2)"

FT WO9715595-AL.
 PN 01-MAY-1997.

PD 24-OCT-1996; U17074.

PR 24-OCT-1995; US-547262.

PA (SMIK) SMITHKLINE BEECHAM CORP.

PI King AG, Pelus LM;
 WPI; 97-258957/23.

PT Use of specific chemokine(s) for stem cell mobilisation - useful for
 PT treating myelosuppression or any condition involving
 PT immunosuppression or low levels of haematopoietic cells
 PS Claim 1; Page 21; 31pp; English.

CC This polypeptide sequence comprises human gro beta. Use of
 CC mammalian chemokines selected from gro alpha (W17670), gro beta,
 CC gro gamma (W17672) or KC (W17669) for mobilising haematopoietic
 CC cells is claimed. The chemokines, optionally used together with a
 CC growth factor or other haematopoietic regulator, are used to treat
 CC myelosuppression or any condition that involves immunosuppression
 CC or low levels of haematopoietic cells, e.g. infection, cancer,
 CC myelopoietic dysfunction, haematopoietic disorders, aplastic anaemia
 CC or autoimmune disease, or low production/differentiation of

CC haematopoietic or bone marrow cells. A claimed application is in
 CC peripheral blood stem cell transplants in patients being treated by
 CC chemotherapy. Chemokines having an N-terminal deletion are more
 CC active, e.g. by 2 orders of magnitude, than the full-length protein.
 CC When used with a colony stimulating factor (CSF), a synergistic
 CC effect is achieved and the dose, and side-effects, of CSF can be
 CC reduced. Compared with conventional methods of stem cell transplants,
 CC use of mammalian chemokines provides a more rapid release of
 CC peripheral blood mononuclear cells and/or platelets, reducing risk of
 CC infection and allowing use of higher doses of chemotherapeutic
 CC agents.
 CC Sequence 73 AA;

Query Match 93.9%; Score 77; DB 24; Length 73;
 Best Local Similarity 91.7%; Pred. No. 5.07e-02;
 Matches 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Db 49 kacInpasmvkv 60
 |||||:|
 QY 1 KACLNPASPIVK 12

RESULT 11

ID R66699 standard; protein; 73 AA.
 AC R66699;
 DT 19-JUL-1995 (first entry)
 DE Human gro-beta chemokine.
 KW Gro-alpha protein; chemokine; inflammation; antiinflammatory;
 KW hematopoietic synergistic factor; HSF; hematopoietic precursor;
 KW bone marrow; intercrine; desamino gro-beta; truncation.
 OS Homo sapiens.
 FH Key Location/Qualifiers
 FT Protein
 FT 5..73
 FT /note= "desamino truncated gro-beta, claim 6,
 FT page 68"
 FT WO9429341-A.
 PN 22-DEC-1994.
 PD 03-JUN-1994; U06264.
 PF 08-JUN-1993; US-073800.
 PR (SMK) SMITHKLINE BEECHAM CORP.
 PA Balcarek JM, Bhatnagar P, King AG, Pelus LM;
 PI WPI; 95-036402/05.
 PT New truncated chemokine with increased biological activity - and
 PT related multimers, nucleic acid, antibodies etc., for treating
 PT inflammation, stimulating growth of bone marrow etc., also
 PT peptide(s) for inducing haematopoietic synergistic factor.
 PS Disclosure; Page 51-52; 89pp; English.
 CC Truncated, desamino chemokine comprising amino acids 5-73 of
 CC human mature gro-beta (full sequence given in R66699)
 CC shows enhanced biological activity when compared to the mature
 CC protein, and has been used to prepare multimeric, modified
 CC chemokines.
 CC Sequence 73 AA;

Query Match 93.9%; Score 77; DB 12; Length 73;
 Best Local Similarity 91.7%; Pred. No. 5.07e-02;
 Matches 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Db 49 kacInpasmvkv 60
 |||||:|
 QY 1 KACLNPASPIVK 12

RESULT 12

ID R36771 standard; protein; 73 AA.
 AC R36771;
 DT 29-SEP-1993 (first entry)
 DE MIP-2alpha.
 KW Macrophage inflammatory protein; megakaryocytopoiesis; MIP-1; MIP-2;
 KW thrombocytopenia; reactive thrombocytosis; stroke; emboli; platelet;
 KW myeloproliferative disorder.
 OS Homo sapiens.
 PN WO9309799-A.

PD 27-MAY-1993.
 PF 13-NOV-1992; U09671.
 PR 15-NOV-1991; US-792988.
 PA (UYPE-) UNIV PENNSYLVANIA.
 PI Gewirtz AM;
 DR WPI; 93-182239/22.

PT Suppression of megakaryocytopoiesis - by administration of
 PT macrophage inflammatory protein-1 or -2
 PS Disclosure; Page 18; 26pp; English.
 CC A claimed method for reducing the no. of circulating platelets in the
 CC bloodstream of a mammal comprises admin. of MIP-1 and/or MIP-2 or
 CC their analogues to induce such a reduction. The MIP-1, MIP-2 or
 CC analogue may be operatively linked to a carrier. The MIPs can be
 CC used to inhibit megakaryocytopoiesis to effect in vivo reduction of
 CC platelet nos. They can be used to treat disorders with excessively
 CC high platelet counts such as thrombocytosis, stroke, pulmonary emboli
 CC and myeloproliferative disorders.
 CC Sequence 73 AA;

Query Match 93.9%; Score 77; DB 7; Length 73;
 Best Local Similarity 91.7%; Pred. No. 5.07e-02;
 Matches 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Db 49 kacInpasmvkv 60
 |||||:|
 QY 1 KACLNPASPIVK 12

RESULT 13

ID R70793 standard; Protein; 102 AA.
 AC R70793;
 DT 29-AUG-1995 (first entry)
 DE Gro-beta/MIP-2-alpha.
 KW Macrophage inflammatory protein 2-alpha; gro-beta/MIP-2-alpha;
 KW heparanase; heparin; heparan sulfate; arthritis; restenosis;
 KW cancer; wound healing.
 OS Homo sapiens.
 PN WO9504158-A.
 PD 09-FEB-1995.
 PF 26-JUL-1994; U08207.
 PR 29-JUL-1993; US-099866.
 PR 13-OCT-1993; US-136117.
 PA (UPJO) UPJOHN CO.
 PI Hoogwerf AJ, Ledbetter SR;
 DR WPI; 95-082239/11.
 DR N-PSDB; Q85363.
 PT Screening for cpds. with anti-heparanase activity - by detecting
 PT inhibition of heparin or heparan sulphate degradation,
 PT potentially useful for treating arthritis, restenosis, cancer.
 PS Claim 12; Page 40; 60pp; English.
 CC Purified heparanases, prepared under reducing conditions and
 CC activated with transglutaminase, are given in R70786-804. Most
 CC are prepared by reverse transcription of mRNA from activated human
 CC leukocytes, then cloning of the cDNA into pVLI392 baculovirus
 CC vector, and expression in Sf9 cells in the presence of reduced
 CC glutathione and dithiothreitol.
 CC Sequence 102 AA;

Query Match 93.9%; Score 77; DB 13; Length 102;
 Best Local Similarity 91.7%; Pred. No. 5.07e-02;
 Matches 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Db 83 kacInpasmvkv 94
 |||||:|
 QY 1 KACLNPASPIVK 12

RESULT 14

ID R23034 standard; Protein; 107 AA.
 AC R23034;
 DT 26-OCT-1992 (first entry)
 DE Human Gro beta cytokine.
 KW Cytokine; inflammatory response; MAD-2; cancer diagnosis;

KW colonic epithelial tumour cell.
 OS Homo sapiens.
 FH Key Location/Qualifiers
 FT peptide 1..35
 FT /label= leader
 FT /note= "putative"
 FT 36..107
 FT /label= Gro_beta
 FT protein
 FT WO9206196-A.
 PN 16-APR-1992.
 PD 24-SEP-1991; U06936.
 PE 28-SEP-1990; US-590223.
 PR (CETU) CETUS CORP.
 PA (UYNC-) UNIV OF NORTH CAROLINA.
 PI Haskill JS, Nitecki DE, Ralph P;
 DR WPI: 92-150882/18.
 DR N-PSDB; Q24266.
 PT Gro beta and Gro gamma inflammatory cytokine(s) - for use in
 PT diagnosing colon cancer
 PS Claim 12; Fig 1B; 46pp; English.
 CC The cDNA clone coding for inflammatory cytokine Gro-beta was
 CC isolated from a mezerin- and calcium ionophore-stimulated leukocyte
 CC cDNA library. The amino acid sequence of Gro beta was deduced from
 CC the nucleotide sequence. The level of Gro beta in inflammatory
 CC response cells can be used as an indication of a test substance's
 CC inflammatory activity and to diagnose colon cancer.
 CC See also Q24267.
 CC Sequence 107 AA;

Query Match 93.9%; Score 77; DB 4; Length 107;
 Best Local Similarity 91.7%; Pred. No. 5.07e-02;
 Matches 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

DB 83 kaclnpasmvk 94
 |||||
 QY 1 KACLNPAPIVK 12

RESULT 15
 ID R20529 standard; Protein; 107 AA.
 AC R20529;
 DT 23-APR-1992 (first entry)
 DE Human macrophage inflammatory protein (MIP) 2 alpha.
 KW Inducible; secretory; inflammatory response; cytokine.
 OS Homo sapiens.
 FH Key Location/Qualifiers
 FT peptide 1..34
 FT /label= signal
 FT WO9200326-A.
 PN WO9200327-A.
 PD 09-JAN-1992.
 PF 24-JUN-1991; U04482.
 PR 22-JUN-1990; US-541897.
 PR 19-JUN-1991; US-715194.
 PA (CHIR-) CHIRON CORP.
 PI Tekamp-Olson P, Gallegos CA;
 DR WPI: 92-041519/05.
 DR N-PSDB; Q20729
 PT Human macrophage inflammatory protein 2-alpha - useful in
 PT treating infections, cancer, myelopoietic dysfunction and auto:
 PT immune diseases
 PT Disclosure; Fig 2; 68pp; English.
 PS The sequence was deduced from the DNA sequence obtd. by screening
 CC the 937 cDNA library prepd. from poly-A+ RNA from PMA treated and
 CC LPS stimulated cells, using as probe a fragment isolated from the
 CC mIP-2 cDNA (see Q20728) encoding most of the mature mMIP-2 amino
 CC acid sequence. Two classes of human cDNA homologous to mMIP-2 were
 CC found designated alpha and beta. The alpha form reproduced here
 CC is claimed in WO9200327; the beta form (Q20530) is claimed in
 CC WO9200326. The alpha form is the more abundant of the two. The
 CC genes can be used to produce recombinant MIP proteins for use in
 CC wound healing, to modulate myelopoiesis and to induce adjuvant
 CC activity.

CC See also R20588, R20590 and R20528-30.
 SQ Sequence 107 AA;

Query Match 93.9%; Score 77; DB 4; Length 107;
 Best Local Similarity 91.7%; Pred. No. 5.07e-02;
 Matches 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

DB 83 kaclnpasmvk 94
 |||||
 QY 1 KACLNPAPIVK 12

Search completed: Fri Feb 4 18:02:06 2000
 Job time : 20 secs.

MPsrch_pp protein - protein database search, using Smith-Waterman algorithm

Release 3.1A John F. Collins, Biocomputing Research Unit.
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Run on: Fri Feb 4 18:09:28 2000; MasPar time 2.64 Seconds
Tabular output not generated.
128.473 Million cell updates/sec

Title: >US-09-150-813-73
Description: (1-12) from US09150813.pep
Perfect Score: 86
Sequence: 1 KACLNPA5PMVK 12

Scoring table: PAM 150
Gap 15

Searched: 77977 seqs, 28268293 residues

Post-processing: Minimum Match 0%
Listing first 45 summaries

Database: swiss-prot37
1:swissprot

Statistics: Mean 24.025; Variance 25.608; scale 0.938

pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match % | Length | DB ID | Description | Pred. No. |
|------------|-------|---------------|--------|-------|-----------------------------------|-----------|
| 1 | 86 | 100.0 | 107 | 1 | MI2A_HUMAN MACROPHAGE INFLAMMATOR | 4.22e-10 |
| 2 | 79 | 91.9 | 107 | 1 | MI2B_HUMAN MACROPHAGE INFLAMMATOR | 4.97e-08 |
| 3 | 77 | 89.5 | 107 | 1 | GRO_HUMAN GROWTH REGULATED PROTE | 1.89e-07 |
| 4 | 73 | 84.9 | 98 | 1 | GROB_BOVIN GROWTH REGULATED PROTE | 2.61e-06 |
| 5 | 71 | 82.6 | 104 | 1 | GROB_BOVIN GROWTH REGULATED PROTE | 9.48e-06 |
| 6 | 71 | 82.6 | 104 | 1 | GROA_BOVIN GROWTH REGULATED PROTE | 9.48e-06 |
| 7 | 66 | 76.7 | 101 | 1 | GRO_CRIGR GROWTH REGULATED PROTE | 2.22e-04 |
| 8 | 64 | 74.4 | 71 | 1 | GRO1_RABIT PERMEABILITY FACTOR 2 | 7.58e-04 |
| 9 | 64 | 74.4 | 96 | 1 | GRO_RAT GROWTH REGULATED PROTE | 7.58e-04 |
| 10 | 64 | 74.4 | 104 | 1 | GRO_CAVPO GROWTH REGULATED PROTE | 7.58e-04 |
| 11 | 62 | 72.1 | 104 | 1 | GRO2_RABIT GROWTH REGULATED PROTE | 7.58e-04 |
| 12 | 60 | 69.8 | 100 | 1 | MIP2_MOUSE GROWTH REGULATED PROTE | 2.54e-03 |
| 13 | 59 | 68.6 | 119 | 1 | PF4L_PIG PLATELET BASIC PROTEIN | 1.50e-02 |
| 14 | 59 | 68.6 | 128 | 1 | PF4L_HUMAN PLATELET BASIC PROTEIN | 1.50e-02 |
| 15 | 58 | 67.4 | 75 | 1 | GCP2_BOVIN GRANULOCYTE CHEMOTACTI | 2.68e-02 |
| 16 | 58 | 67.4 | 130 | 1 | LIX_RAT CYTOKINE LIX PRECURSOR | 2.68e-02 |
| 17 | 58 | 67.4 | 161 | 1 | TBAL_LYTP1 TUBULIN ALPHA CHAIN (F | 2.68e-02 |
| 18 | 58 | 67.4 | 412 | 1 | TBAL_CHICK TUBULIN ALPHA-1 CHAIN | 2.68e-02 |
| 19 | 58 | 67.4 | 444 | 1 | TBA1_ONCKE TUBULIN ALPHA CHAIN. | 2.68e-02 |
| 20 | 58 | 67.4 | 448 | 1 | TBA4_HUMAN TUBULIN ALPHA-4 CHAIN. | 2.68e-02 |
| 21 | 58 | 67.4 | 449 | 1 | TBA2_DROME TUBULIN ALPHA-2 CHAIN. | 2.68e-02 |
| 22 | 58 | 67.4 | 449 | 1 | TBA_XENIA TUBULIN ALPHA CHAIN. | 2.68e-02 |
| 23 | 58 | 67.4 | 449 | 1 | TBA6_MOUSE TUBULIN ALPHA-6 CHAIN. | 2.68e-02 |

| | | | | | | |
|----|----|------|------|---|-----------------------------------|----------|
| 24 | 58 | 67.4 | 450 | 1 | TBA_BOMMO TUBULIN ALPHA CHAIN. | 2.68e-02 |
| 25 | 58 | 67.4 | 450 | 1 | TBA1_NOTVI TUBULIN ALPHA CHAIN. | 2.68e-02 |
| 26 | 58 | 67.4 | 450 | 1 | TBA1_DROME TUBULIN ALPHA-1 CHAIN. | 2.68e-02 |
| 27 | 58 | 67.4 | 450 | 1 | TBA3_DROME TUBULIN ALPHA-3 CHAIN. | 2.68e-02 |
| 28 | 58 | 67.4 | 450 | 1 | TBA3_MOUSE TUBULIN ALPHA-3 AND AL | 2.68e-02 |
| 29 | 58 | 67.4 | 450 | 1 | TBA1_ONCMY TUBULIN ALPHA CHAIN, T | 2.68e-02 |
| 30 | 58 | 67.4 | 451 | 1 | TBA1_HOMAM TUBULIN ALPHA-1 CHAIN | 2.68e-02 |
| 31 | 58 | 67.4 | 451 | 1 | TBA1_TORMA TUBULIN ALPHA CHAIN (A | 2.68e-02 |
| 32 | 58 | 67.4 | 451 | 1 | TBA1_PIG TUBULIN ALPHA CHAIN. | 2.68e-02 |
| 33 | 58 | 67.4 | 451 | 1 | TBA1_CRIGR TUBULIN ALPHA-1 CHAIN. | 2.68e-02 |
| 34 | 58 | 67.4 | 451 | 1 | TBA1_MOUSE TUBULIN ALPHA-1 CHAIN. | 2.68e-02 |
| 35 | 58 | 67.4 | 451 | 1 | TBA1_HUMAN TUBULIN ALPHA-1 CHAIN, | 2.68e-02 |
| 36 | 58 | 67.4 | 451 | 1 | TBA3_HOMAM TUBULIN ALPHA-3 CHAIN | 2.68e-02 |
| 37 | 58 | 67.4 | 451 | 1 | TBA2_MOUSE TUBULIN ALPHA-2 CHAIN. | 2.68e-02 |
| 38 | 58 | 67.4 | 452 | 1 | TBA1_PARLI TUBULIN ALPHA-1 CHAIN. | 2.68e-02 |
| 39 | 58 | 67.4 | 452 | 1 | TBA2_PATVU TUBULIN ALPHA-2/ALPHA- | 2.68e-02 |
| 40 | 57 | 66.3 | 96 | 1 | GRO_MOUSE GROWTH REGULATED PROTE | 4.75e-02 |
| 41 | 57 | 66.3 | 240 | 1 | TBA_OCTVU TUBULIN ALPHA CHAIN (F | 4.75e-02 |
| 42 | 57 | 66.3 | 451 | 1 | TBA2_HOMAM TUBULIN ALPHA-2 CHAIN | 4.75e-02 |
| 43 | 57 | 66.3 | 451 | 1 | TBA_OCTDO TUBULIN ALPHA CHAIN. | 4.75e-02 |
| 44 | 57 | 66.3 | 1389 | 1 | RPOB_NEIME DNA-DIRECTED RNA POLYM | 4.75e-02 |
| 45 | 56 | 65.1 | 448 | 1 | TBA5_CHICK TUBULIN ALPHA-5 CHAIN. | 8.39e-02 |

ALIGNMENTS

| | | | | |
|----------|--|-----------------------------------|------|---------|
| RESULT 1 | MI2A_HUMAN | STANDARD; | PRT; | 107 AA. |
| ID | PI9875; | | | |
| DT | 01-FEB-1991 | (REL. 17, CREATED) | | |
| DT | 01-FEB-1991 | (REL. 17, LAST SEQUENCE UPDATE) | | |
| DT | 01-JUN-1994 | (REL. 29, LAST ANNOTATION UPDATE) | | |
| DE | MACROPHAGE INFLAMMATORY PROTEIN-2-ALPHA PRECURSOR (MIP2-ALPHA) (GROWTH | | | |
| DE | REGULATED PROTEIN BETA) (GRO-BETA). | | | |
| GN | GRO2 OR GROB OR MIP2A. | | | |
| OS | HOMO SAPIENS (HUMAN). | | | |
| OC | EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; | | | |
| OC | PRIMATES; CATARRHINI; HOMINIDAE; HOMO. | | | |
| RN | [1] | | | |
| RP | SEQUENCE FROM N.A. | | | |
| RC | TISSUE-HISTIOCYTIC LYMPHOMA; | | | |
| RX | MEDLINE; 90354792. | | | |
| RA | TEKAMP-OLSON P., GALLEGOS C., BAUER D., MCCLAIN J., SHERRY B., | | | |
| RA | FABRE M., VAN DEVENTER S., CERAMI A.; | | | |
| RT | "Cloning and characterization of cDNAs for murine macrophage | | | |
| RT | inflammatory protein 2 and its human homologues."; | | | |
| RL | J. EXP. MED. 172:911-919(1990). | | | |
| RN | [2] | | | |
| RP | SEQUENCE FROM N.A. | | | |
| RX | MEDLINE; 90377259. | | | |
| RA | IIDA N., GROTDORST G.R.; | | | |
| RT | "Cloning and sequencing of a new gro transcript from activated human | | | |
| RT | monocytes: expression in leukocytes and wound tissue."; | | | |
| RL | MOL. CELL. BIOL. 10:5596-5599(1990). | | | |
| RN | [3] | | | |
| RP | SEQUENCE FROM N.A. | | | |
| RX | MEDLINE; 91017578. | | | |
| RA | HASKILL S., PEACE A., MORRIS J., SPORN S.A., ANISOWICZ A., LEE S.W., | | | |
| RA | SMITH T., MARTIN G., RALPH P., SAGER R.; | | | |
| RT | "Identification of three related human GRO genes encoding cytokine | | | |
| RT | functions."; | | | |
| RL | PROC. NATL. ACAD. SCI. U.S.A. 87:7732-7736(1990). | | | |
| CC | -!- FUNCTION: PRODUCED BY ACTIVATED MONOCYTES AND NEUTROPHILS AND | | | |
| CC | EXPRESSED AT SITES OF INFLAMMATION. | | | |
| CC | -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE | | | |
| CC | C-X-C) (CHEMOKINE CX-C). | | | |
| CC | ----- | | | |
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CC EMBL; X53799; G34659; -.
CC EMBL; M36820; G183629; -.
DR EMBL; M57731; G183627; -.
DR PIR; JH0281; JH0281.
DR MIM; 139110; -.
DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
DR PFAM; PF00048; 118; 1.
DR HSSP; P09341; IMGS.
KW CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.
FT SIGNAL 1 34
FT CHAIN 35 107 MACROPHAGE INFLAMMATORY PROTEIN
FT DISULFID 43 69 BY SIMILARITY.
FT DISULFID 45 85 BY SIMILARITY.
FT CONFLICT 27 28 AA -> G (IN REF. 2).
SQ SEQUENCE 107 AA; 11389 MW; 6E431A15 CRC32;

Query Match 100.0%; Score 86; DB 1; Length 107;
Best Local Similarity 100.0%; Pred. No. 4.22e-10; Mismatches 0; Indels 0; Gaps 0;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 83 KACLNPASPVMK 94
QY 1 KACLNPASPVMK 12
|||||
RESULT 2
ID M12B_HUMAN STANDARD; PRT; 107 AA.
AC P19876;
DT 01-FEB-1991 (REL. 17, CREATED)
DT 01-FEB-1991 (REL. 17, LAST SEQUENCE UPDATE)
DE MACROPHAGE INFLAMMATORY PROTEIN-2-BETA PRECURSOR (MIP2-BETA) (GROWTH
DE REGULATED PROTEIN GAMMA) (GRO-GAMMA).
GN GRO3 OR GROG.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC PRIMATES; CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE; 90354792.
RA TEKAMP-OLSON P., GALLEGO C., BAUER D., MCCLAIN J., SHERRY B.,
RA FABRE M., VAN DEVENTER S., CERAMI A.;
RT "Cloning and characterization of cDNAs for murine macrophage
RT inflammatory protein 2 and its human homologues.";
RL J. EXP. MED. 172:911-919(1990).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE; 91017578.
RA HASKILL S., PEACE A., MORRIS J., SPORN S.A., ANISOWICZ A., LEE S.W.,
RA SMITH T., MARTIN G., RALPH P., SAGER R.;
RT "Identification of three related human GRO genes encoding cytokine
RT functions.";
RL PROC. NATL. ACAD. SCI. U.S.A. 87:7732-7736(1990).
CC -!- FUNCTION: MAY PLAY A ROLE IN INFLAMMATION AND EXERT ITS EFFECTS
CC ON ENDOTHELIAL CELLS IN AN AUTOCRINE FASHION.
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
CC C-X-C) (CHEMOKINE CXC).
CC
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CC EMBL; X53800; G34663; -.
DR EMBL; M36821; G183633; -.
DR PIR; B38290; B38290.
DR PIR; JH0282; JH0282.

MIM; 139111; -.
DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
DR PFAM; PF00048; 118; 1.
DR HSSP; P09341; IMGS.
KW CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.
FT SIGNAL 1 34
FT CHAIN 35 107 MACROPHAGE INFLAMMATORY PROTEIN
FT DISULFID 43 69 BY SIMILARITY.
FT DISULFID 45 85 BY SIMILARITY.
FT CONFLICT 27 28 AA -> G (IN REF. 2).
SQ SEQUENCE 107 AA; 11342 MW; 6F2A63D2 CRC32;

Query Match 91.9%; Score 79; DB 1; Length 107;
Best Local Similarity 100.0%; Pred. No. 4.97e-08; Mismatches 0; Indels 0; Gaps 0;
Matches 11; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 83 KACLNPASPVMV 93
QY 1 KACLNPASPVMV 11
|||||
RESULT 3
ID GRO_HUMAN STANDARD; PRT; 107 AA.
AC P09341;
DT 01-MAR-1989 (REL. 10, CREATED)
DT 01-MAR-1989 (REL. 10, LAST SEQUENCE UPDATE)
DT 01-NOV-1997 (REL. 35, LAST ANNOTATION UPDATE)
DE GROWTH REGULATED PROTEIN PRECURSOR (MELANOMA GROWTH STIMULATORY
DE ACTIVITY) (MGSA) (NEUTROPHIL-ACTIVATING PROTEIN 3) (NAP-3).
GN GRO1 OR GROA OR GRO OR MGSA.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC PRIMATES; CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE; 88041072.
RA ANISOWICZ A., BARDWELL L., SAGER R.;
RT "Constitutive overexpression of a growth-regulated gene in
RT transformed Chinese hamster and human cells.";
RL PROC. NATL. ACAD. SCI. U.S.A. 84:7188-7192(1987).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE; 88328991.
RA RICHMOND A., BALENTIEN F., THOMAS H.G., FLAGGS G., BARTON D.E.,
RA SPIESS J., BORDONI R., FRANCKE U., DERYNCK R.;
RT "Molecular characterization and chromosomal mapping of melanoma
RT growth stimulatory activity, a growth factor structurally related to
RT beta-thromboglobulin.";
RL EMBO J. 7:2025-2033(1988).
RN [3]
RP SEQUENCE FROM N.A.
RC TISSUE=BLOOD;
RX MEDLINE; 91057157.
RA BAKER N.E., KUCERA G., RICHMOND A.;
RT "Nucleotide sequence of the human melanoma growth stimulatory
RT activity (MGSA) gene.";
RL NUCLEIC ACIDS RES. 18:6453-6453(1990).
RN [4]
RP SEQUENCE OF 35-65.
RX MEDLINE; 90217938.
RA SCHROEDER J.-M., PERSOON N.L.M., CHRISTOPHERS E.;
RT "Lipopolysaccharide-stimulated human monocytes secrete, apart from
RT neutrophil-activating peptide 1/interleukin 8, a second neutrophil-
RT activating protein. NH2-terminal amino acid sequence identity with
RT melanoma growth stimulatory activity.";
RL J. EXP. MED. 171:1091-1100(1990).
RN [5]
RP SEQUENCE OF 35-57.
RX MEDLINE; 89246368.
RA GOLDS E.E., MASON P., NYRKOS P.;
RT "Inflammatory cytokines induce synthesis and secretion of gro protein
RT and a neutrophil chemotactic factor but not beta 2-microglobulin in

human synovial cells and fibroblasts.";

RL BIOCHEM. J. 259:585-588(1989).

[6]

RP POSSIBLE FUNCTION.

RX MEDLINE; 89356650.

RA WEN D., ROWLAND A., DERYNCK R.;

RT "Expression and secretion of gro/MSA by stimulated human endothelial

RT cells.";

RL EMOB J. 8:1761-1766(1989).

[7]

RP STRUCTURE BY NMR.

RX MEDLINE; 93387459.

RA FAIRBROTHER W.J., REILLY D., COLBY T., HORUK R.;

RT "1H assignment and secondary structure determination of human

RT melanoma growth stimulating activity (MGSA) by NMR spectroscopy.";

RL FEBS LETT. 330:302-306(1993).

[8]

RP STRUCTURE BY NMR.

RX MEDLINE; 94376296.

RA FAIRBROTHER W.J., REILLY D., COLBY T., HESSELGESSER J., HORUK R.;

RT "The solution structure of melanoma growth stimulating activity.";

RL J. MOL. BIOL. 242:252-270(1994).

[9]

RP STRUCTURE BY NMR.

RX MEDLINE; 95105175.

RA KIM K.S., CLARK-LEWIS I., SYKES B.D.;

RT "Solution structure of GRO/melanoma growth stimulatory activity

RT determined by 1H NMR spectroscopy.";

RL J. BIOL. CHEM. 269:32909-32915(1994).

CC -!- FUNCTION: HAS CHEMOTACTIC ACTIVITY FOR NEUTROPHILS. MAY PLAY A

CC ROLE IN INFLAMMATION AND EXERTS ITS EFFECTS ON ENDOTHELIAL CELLS

CC IN AN AUTOCRINE FASHION.

CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE

CC C-X-C) (CHEMOKINE CXCL).

CC

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CC

DR EMBL; J03561; G306806; -.

DR EMBL; X12510; G34622; -.

DR EMBL; X54489; G34626; -.

DR PIR; A28414; A28414.

DR PIR; S00983; S00983.

DR PIR; S03976; S03976.

DR PIR; S13669; S13669.

DR PDB; 1MGS; 30-SEP-94.

DR PDB; 1MSG; 31-MAR-95.

DR PDB; 1MSH; 31-MAR-95.

DR MIM; 155730; -.

DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.

DR PFAM; PF00048; i18; 1.

KW CYTOKINE; GROWTH FACTOR; INFLAMMATORY RESPONSE; SIGNAL; 3D-STRUCTURE.

FT SIGNAL 1 34

FT CHAIN 35 107 GRO PROTEIN.

FT DISULFID 43 69

FT DISULFID 45 85

SQ SEQUENCE 107 AA; 11301 MW; 4DEE921B CRC32;

Query Match 89.5%; Score 77; DB 1; Length 107;

Best Local Similarity 91.7%; Pred. No. 1.89e-07;

Matches 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Db 83 KACLNPASPIVK 94

|||||

QY 1 KACLNPASPMVK 12

|||||

RESULT 4

ID GROB_BOVIN STANDARD; PRT; 98 AA.

AC O46675;

DT 15-DEC-1998 (REL. 37, CREATED)

DT 15-DEC-1998 (REL. 37, LAST SEQUENCE UPDATE)

DT 15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)

DE GROWTH REGULATED PROTEIN HOMOLOG GAMMA PRECURSOR (GRO-GAMMA).

OS BOS TAURUS (BOVINE).

OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;

OC ARTIODACTYLA; RUMINANTIA; PECORA; BOVIDAE; BOVINAE; BOS.

RN [1]

RP SEQUENCE FROM N.A.

RA YOSHIMURA T., MODI W.S.;

RL SUBMITTED (MAR-1997) TO EMBL/GENBANK/DBJ DATA BANKS.

CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE

CC C-X-C) (CHEMOKINE CXCL).

CC

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CC

DR EMBL; U95811; G2735493; -.

DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.

KW CYTOKINE; GROWTH FACTOR; INFLAMMATORY RESPONSE; SIGNAL.

FT SIGNAL 1 29

FT CHAIN 30 98

FT DISULFID 39 65

FT DISULFID 41 81

SQ SEQUENCE 98 AA; 10393 MW; ECC2B4C CRC32;

Query Match 84.9%; Score 73; DB 1; Length 98;

Best Local Similarity 90.0%; Pred. No. 2.61e-06;

Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Db 81 CLNPAAPMVK 90

|||||

QY 3 CLNPASPMVK 12

|||||

RESULT 5

ID GROB_BOVIN STANDARD; PRT; 104 AA.

AC O46677;

DT 15-DEC-1998 (REL. 37, CREATED)

DT 15-DEC-1998 (REL. 37, LAST SEQUENCE UPDATE)

DT 15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)

DE GROWTH REGULATED PROTEIN HOMOLOG BETA PRECURSOR (GRO-BETA).

OS BOS TAURUS (BOVINE).

OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;

OC ARTIODACTYLA; RUMINANTIA; PECORA; BOVIDAE; BOVINAE; BOS.

RN [1]

RP SEQUENCE FROM N.A.

RA YOSHIMURA T., MODI W.S.;

RL SUBMITTED (MAR-1997) TO EMBL/GENBANK/DBJ DATA BANKS.

CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE

CC C-X-C) (CHEMOKINE CXCL).

CC

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CC

DR EMBL; U95813; G2735497; -.

DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.

KW CYTOKINE; GROWTH FACTOR; INFLAMMATORY RESPONSE; SIGNAL.

FT SIGNAL 1 30

FT CHAIN 31 104

FT DISULFID 40 66

SQ SEQUENCE 104 AA; 11301 MW; 4DEE921B CRC32;

Query Match 89.5%; Score 77; DB 1; Length 107;

Best Local Similarity 91.7%; Pred. No. 1.89e-07;

Matches 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Db 83 KACLNPASPIVK 94

|||||

QY 1 KACLNPASPMVK 12

|||||

RESULT 4

```
FT DISULFID 42 82 BY SIMILARITY.
SQ SEQUENCE 104 AA; 10950 MW; 2C63B23D CRC32;

Query Match 82.6%; Score 71; DB 1; Length 104;
Best Local Similarity 80.0%; Pred. No. 9.48e-06;
Matches 8; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Db 82 CLNPTAPMK 91
    ||||:||||
QY 3 CLNPASPMVK 12

RESULT 6
ID GROA_BOVIN STANDARD; PRT; 104 AA.
AC Q46676;
DT 15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)
DT 15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)
DE GROWTH REGULATED PROTEIN HOMOLOG ALPHA PRECURSOR (GRO-ALPHA).
OS BOS TAURUS (BOVINE)
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC ARTIODACTYLA; RUMINANTIA; PECORA; BOVIDAE; BOVINAE; BOS.
RN [1]
RP SEQUENCE FROM N.A.
RA YOSHIMURA T., MODI W.S.;
RL SUBMITTED (MAR-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
    C-X-C) (CHEMOKINE CXCL).
CC -----
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CC -----
CC EMBL; J03560; G304509; -
DR PIR; B28414; B28414.
DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
DR PFAM; PF00048; i18; 1.
DR HSP; P10889; IML2.
KW CYTOKINE; GROWTH FACTOR; INFLAMMATORY RESPONSE; SIGNAL.
FT SIGNAL 1 28 POTENTIAL.
FT CHAIN 29 101 GRO PROTEIN.
FT DISULFID 37 63 BY SIMILARITY.
FT DISULFID 39 79 BY SIMILARITY.
SQ SEQUENCE 101 AA; 10893 MW; 3F83AD41 CRC32;

Query Match 76.7%; Score 66; DB 1; Length 101;
Best Local Similarity 80.0%; Pred. No. 2.22e-04;
Matches 8; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 78 ACLNPEAPMV 87
    ||||:||||
QY 2 ACLNPASPMVK 11

RESULT 8
ID GRO1_RABIT STANDARD; PRT; 71 AA.
AC P30782;
DT 01-JUL-1993 (REL. 26, CREATED)
DT 01-FEB-1996 (REL. 33, LAST SEQUENCE UPDATE)
DT 15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)
DE PERMEABILITY FACTOR 2 (RPF2) (FRAGMENT).
OS ORYCTOLAGUS CUNICULUS (RABBIT).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC LAGOMORPHA; LEPORIDAE; ORYCTOLAGUS.
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=NEW ZEALAND WHITE; TISSUE=ALVEOLAR MACROPHAGE;
RX MEDLINE; 95129889.
RA JOHNSON M.C., GOODMAN R.B. II, KAJIKAWA O., WONG V.A., MONGOVIN S.M.,
RA MARTIN T.R.;
RT "Cloning of two rabbit GRO homologues and their expression in
RT alveolar macrophages."
RL GENE 151:337-338(1994).
RN [2]
RP SEQUENCE OF 1-36.
RC STRAIN=NEW ZEALAND WHITE; TISSUE=PERITONEAL CAVITY;
RX MEDLINE; 91378900.
RA JOSE P.J., COLLINS P.D., PERKINS J.A., BEAUBIEN B.C., TOTTY N.F.,
RA WATERFIELD M.D., HSUAN J., WILLIAMS T.J.;
RT "Identification of a second neutrophil-chemoattractant cytokine
RT generated during an inflammatory reaction in the rabbit peritoneal
RT cavity in vivo. Purification, partial amino acid sequence and
RT structural relationship to melanoma-growth-stimulatory activity."
RL BIOCHEM. J. 278:493-497(1991).
CC -!- FUNCTION: HAS CHEMOTACTIC ACTIVITY FOR NEUTROPHILS (BY
    SIMILARITY).
CC -!- SUBUNIT: HOMODIMER (PROBABLE).
CC -!- INDUCTION: GENERATED DURING AN INFLAMMATORY REACTION.
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
    C-X-C) (CHEMOKINE CXCL).
CC -----
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EMBL; L19157; G309960; -;
 PIR; S17507; S17507.
 DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; PARTIAL.
 DR PFAM; PF00048; i18; 1.
 DR HSSP; P09341; 1MSH.
 KW CYTOKINE; GROWTH FACTOR; INFLAMMATORY RESPONSE.
 FT DISULFID 7 33
 FT DISULFID 9 49 BY SIMILARITY.
 FT CONFLICT 20 20 N -> S (IN REF. 2).
 FT CONFLICT 23 23 N -> S (IN REF. 2).
 FT NON_TER 71 71
 SQ SEQUENCE 71 AA; 7713 MW; C1371890 CRC32;

Query Match 74.4%; Score 64; DB 1; Length 71;
 Best Local Similarity 81.8%; Pred. No. 7.58e-04;
 Matches 9; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 48 ACRNPAAPMVK 58
 QY 2 ACLNPASPVMK 12
 |||:|||||

RESULT 9
 ID GRO_RAT STANDARD; PRT; 96 AA.
 AC P14095;
 DT 01-JAN-1990 (REL. 13, CREATED)
 DT 01-NOV-1995 (REL. 32, LAST SEQUENCE UPDATE)
 DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
 DE GROWTH REGULATED PROTEIN PRECURSOR (CYTOKINE-INDUCED NEUTROPHIL CHEMOATTRACTANT) (CINC-1) (PLATELET-DERIVED GROWTH FACTOR-INDUCIBLE PROTEIN KC).
 GN GRO.
 OS RATTUS NORVEGICUS (RAT).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; RATTUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 93246259.
 RA KONISHI K., TANAKA Y., YAMAMOTO M., YOMOGIDA K., WATANABE K., TSURUFUJI S., FUJIOKA M.;
 RT "Structure of the gene encoding rat neutrophil chemo-attractant Gro.";
 RL GENE 126:285-286(1993).
 RN [2]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 92246987.
 RA HUANG S., PAULAUSKIS J., KOBZIK L.;
 RT "Rat KC cDNA cloning and mRNA expression in lung macrophages and fibroblasts.";
 RL BIOCHEM. BIOPHYS. RES. COMMUN. 184:922-929(1992).
 RN [3]
 RP SEQUENCE OF 25-96.
 RX MEDLINE; 90062049.
 RA WATANABE K., KONISHI K., FUJIOKA M., KINOSHITA S., NAKAGAWA H.;
 RT "The neutrophil chemoattractant produced by the rat kidney epitheloid cell line NRK-52E is a protein related to the KC/gro protein.";
 RL J. BIOL. CHEM. 264:19559-19563(1989).
 RN [4]
 RP SEQUENCE OF 36-88 FROM N.A.
 RC STRAIN=CD-1; TISSUE=LUNG;
 RX MEDLINE; 93035653.
 RA HUANG S., PAULAUSKIS J.D., GODLESKI J.J., KOBZIK L.;
 RT "Expression of macrophage inflammatory protein-2 and KC mRNA in pulmonary inflammation.";
 RL AM. J. PATHOL. 141:981-988(1992).
 RN [5]
 RP SEQUENCE OF 25-56.
 RC STRAIN=WISTAR;

RX MEDLINE; 96183056.
 RA NAKAGAWA H., SHIOYA S., TAKANO K., SHIBATA F., KATO H.;
 RT "Cytokine-induced neutrophil chemoattractant (CINC)-2 alpha, a novel member of rat GRO/CINC, is a predominant chemokine produced by lipopolysaccharide-stimulated rat macrophages in culture.";
 RL BIOCHEM. BIOPHYS. RES. COMMUN. 220:945-948(1996).
 RN [6]
 RP STRUCTURE BY NMR.
 RX MEDLINE; 95046335.
 RA HANZAWA H., HARUYAMA H., WATANABE K., TSURUFUJI S.;
 RT "The three dimensional structure of rat cytokine CINC/Gro in solution by homonuclear 3D NMR.";
 RL FEBS LETT. 354:207-212(1994).
 RN [7]
 RP STRUCTURE BY NMR.
 RX MEDLINE; 97335927.
 RA HANZAWA H., HARUYAMA H., KONISHI K., WATANABE K., TSURUFUJI S.;
 RT "Subunit association and monomer structure of CINC/Gro revealed by 1H-NMR.";
 RL J. BIOCHEM. 121:835-841(1997).
 RN [8]
 RP STRUCTURE BY NMR.
 RX MEDLINE; 98162936.
 RA HANZAWA H., HARUYAMA H., KONISHI K., WATANABE K., TSURUFUJI S.;
 RT "Solution structure of CINC/Gro investigated by heteronuclear NMR.";
 RL J. BIOCHEM. 123:62-70(1998).
 CC -!- FUNCTION: HAS CHEMOTACTIC ACTIVITY FOR NEUTROPHILS. CONTRIBUTES TO NEUTROPHIL ACTIVATION DURING INFLAMMATION.
 CC -!- SUBUNIT: MONOMER AND HOMODIMER.
 CC -!- TISSUE SPECIFICITY: AT LEAST EXPRESSED IN THE LUNG AND TRACHEA.
 CC -!- INDUCTION: IN LUNG, BY LIPOPOLYSACCHARIDE OR INFLAMMATION.
 CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE C-X-C) (CHEMOKINE CXC).
 CC -----
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EMBL; D11445; G220755; -;
 DR EMBL; D11444; G220753; -;
 DR EMBL; M86536; G206687; -;
 DR EMBL; S45856; E62498; -;
 PIR; A34481; A34481.
 DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
 DR PFAM; PF00048; i18; 1.
 DR HSSP; P09341; 1MSH.
 KW CYTOKINE; GROWTH FACTOR; INFLAMMATORY RESPONSE; SIGNAL.
 FT SIGNAL 1 24
 FT CHAIN 25 96 GROWTH REGULATED PROTEIN.
 FT DISULFID 33 59 BY SIMILARITY.
 FT DISULFID 35 75 BY SIMILARITY.
 SQ SEQUENCE 96 AA; 10249 MW; E49B1A5A CRC32;

Query Match 74.4%; Score 64; DB 1; Length 96;
 Best Local Similarity 70.0%; Pred. No. 7.58e-04;
 Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 74 ACLDPEAPMV 83
 QY 2 ACLNPASPVMV 11
 |||:|||||

RESULT 10
 ID GRO_CAVPO STANDARD; PRT; 104 AA.
 AC O55235;
 DT 15-DEC-1998 (REL. 37, CREATED)
 DT 15-DEC-1998 (REL. 37, LAST SEQUENCE UPDATE)
 DT 15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)
 DE GROWTH REGULATED PROTEIN PRECURSOR.

GN CAVIA PORCELLUS (GUINEA PIG).
 OS EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 CC RODENTIA; HYSTRICOGNATHI; CAVIADAE; CAVIA.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN-STRAIN 2;
 RA YOSHIMURA T., MODI W.S.;
 RL SUBMITTED (JAN-1998) TO EMBL/GENBANK/DDBJ DATA BANKS.
 RN [2]
 RP SEQUENCE FROM N.A.
 RC STRAIN-HARTLEY WHITE; TISSUE=SPLEEN;
 RA YOSHIMURA T., TAKEYA M., OATA H., GILLITZER R.;
 RL SUBMITTED (MAR-1998) TO EMBL/GENBANK/DDBJ DATA BANKS.
 CC -!- FUNCTION: HAS CHEMOTACTIC ACTIVITY FOR NEUTROPHILS.
 CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE C-X-C) (CHEMOKINE CXCL).
 CC
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 CC
 DR EMBL; U95809; G2735489; -;
 DR EMBL; U95810; G2735491; -;
 DR EMBL; AF052004; G2981063; -;
 DR EMBL; AF052005; G2981065; -;
 DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
 KW CYTOKINE; GROWTH FACTOR; INFLAMMATORY RESPONSE; SIGNAL.
 FT SIGNAL 1 31 POTENTIAL.
 FT CHAIN 32 104 GRO PROTEIN.
 FT DISULFID 40 66 BY SIMILARITY.
 FT DISULFID 42 82 BY SIMILARITY.
 SQ SEQUENCE 104 AA; 11069 MW; 859F2A19 CRC32;
 Query Match 74.4%; Score 64; DB 1; Length 104;
 Best Local Similarity 70.0%; Pred. No. 7.58e-04;
 Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;
 Db 81 ACLDPEAPMV 90
 QY 2 ACLNPASPMV 11
 RESULT 11
 ID GRO2_RABIT STANDARD; PRT; 104 AA.
 AC P47854;
 DT 01-FEB-1996 (REL. 33, CREATED)
 DT 01-FEB-1996 (REL. 33, LAST SEQUENCE UPDATE)
 DE GROWTH REGULATED PROTEIN HOMOLOG PRECURSOR (GRO HOMOLOG).
 OS ORYCTOLAGUS CUNICULUS (RABBIT).
 CC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 CC LAGOMORPHA; LEPORIDAE; ORYCTOLAGUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RA SCHWARTZ D., CHAVERRI-ALAMADA L., BERLINER J., KIRCHGESSNER T.,
 RA QUISOMORO D., FANG J., TEKAMP-OLSON P., LUSIS J., FOGELMAN A.,
 RA TERRITO M.;
 RL SUBMITTED (JUL-1994) TO EMBL/GENBANK/DDBJ DATA BANKS.
 CC -!- FUNCTION: PLAYS A ROLE IN MONOCYTE ADHESION TO THE ENDOTHELIUM.
 CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE C-X-C) (CHEMOKINE CXCL).
 CC
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 CC

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 CC EMBL; U12310; G520743; -;
 DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
 DR PEAM; PF00048; IL8; 1.
 DR HSSP; P09341; LMGS.
 KW CYTOKINE; GROWTH FACTOR; INFLAMMATORY RESPONSE; SIGNAL.
 FT SIGNAL 1 31 PROBABLE.
 FT CHAIN 32 104 GROWTH REGULATED PROTEIN HOMOLOG.
 FT DISULFID 40 66 BY SIMILARITY.
 FT DISULFID 42 82 BY SIMILARITY.
 SQ SEQUENCE 104 AA; 10900 MW; C75AEF07 CRC32;
 Query Match 72.1%; Score 62; DB 1; Length 104;
 Best Local Similarity 70.0%; Pred. No. 2.54e-03;
 Matches 7; Conservative 3; Mismatches 0; Indels 0; Gaps 0;
 Db 82 CLNPTAPVVK 91
 QY 3 CLNPASPMVK 12
 RESULT 12
 ID MIP2_MOUSE STANDARD; PRT; 100 AA.
 AC P10889;
 DT 01-JUL-1989 (REL. 11, CREATED)
 DT 01-FEB-1991 (REL. 17, LAST SEQUENCE UPDATE)
 DE MACROPHAGE INFLAMMATORY PROTEIN 2 PRECURSOR (MIP2).
 GN MIP2 OR MIP-2.
 OS MUS MUSCULUS (MOUSE).
 CC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 CC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; MUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RA TEKAMP-OLSON P., GALLEGOS C., BAUER D., MCCLAIN J., SHERRY B.,
 RA FABRE M., VAN DEVENTER S., CERAMI A.;
 RT Cloning and characterization of cDNAs for murine macrophage inflammatory protein 2 and its human homologues.
 RT J. EXP. MED. 172:911-919(1990).
 RN [2]
 RP SEQUENCE OF 28-59.
 EX MEDLINE; 89098980.
 RA WOLPE S.D., SHERRY B., JUERS D., DAVATELIS G., YURT R.W., CERAMI A.;
 RT Identification and characterization of macrophage inflammatory protein 2.
 RT PROC. NATL. ACAD. SCI. U.S.A. 86:612-616(1989).
 RN [3]
 RP STRUCTURE BY NMR.
 RX MEDLINE; 98285538.
 RA SHAO W., JERVA L.F., WEST J., LOLIS E., SCHWEITZER B.I.;
 RT Solution structure of murine macrophage inflammatory protein-2.
 RL BIOCHEMISTRY 37:8303-8313(1998).
 CC -!- FUNCTION: CHEMOTACTIC FOR HUMAN POLYMORPHONUCLEAR LEUKOCYTES BUT DOES NOT INDUCE CHEMOKINESIS OR AN OXIDATIVE BURST.
 CC -!- SUBUNIT: HOMOTETRAMER.
 CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE C-X-C) (CHEMOKINE CXCL).
 CC
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 CC
 CC EMBL; X53798; G53129; -;
 DR PIR; JH0200; JH0200.
 DR PDB; 1MI2; 29-APR-98.
 DR MGI; 96991; MIP2.
 DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.

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DR PFAM; PF00048; i18; 1.
KW CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL; 3D-STRUCTURE.
FT SIGNAL 1 27
FT CHAIN 28 100 MACROPHAGE INFLAMMATORY PROTEIN 2.
FT DISULFID 36 62
FT DISULFID 38 78
SQ SEQUENCE 100 AA; 10621 MW; 333AC6A4 CRC32;

Query Match 69.8%; Score 60; DB 1; Length 100;
Best Local Similarity 54.5%; Pred. No. 8.34e-03;
Matches 6; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

Db 76 KVCIDPEAPLV 86
   1 1111111111
Qy 1 KACLNPASPMV 11

RESULT 13
ID PF4L_PIG STANDARD; PRT; 119 AA.
AC P43030;
DT 01-NOV-1995 (REL. 32, CREATED)
DT 01-NOV-1995 (REL. 32, LAST SEQUENCE UPDATE)
DT 01-NOV-1997 (REL. 35, LAST ANNOTATION UPDATE)
DE PLATELET BASIC PROTEIN PRECURSOR (PBP).
GN PBP.
OS SUS SCROFA (PIG).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC ARTIODACTYLA; SUIFORMES; SUINA; SUIDAE; SUS.
RN [1]
RP SEQUENCE FROM N.A., AND SEQUENCE OF 40-119.
RC TISSUE=PLATELET;
RX MEDLINE; 94229068.
RA POWER C.A., PROUDFOOT A.E.I., MAGNENAT E., BACON K., WELLS T.N.C.;
RT "Molecular cloning and characterisation of a neutrophil chemotactic
   protein from porcine platelets.";
RL EUR. J. BIOCHEM. 221:713-719(1994).
CC -1- FUNCTION: CHEMOATTRACTANT FACTOR FOR NEUTROPHILS.
CC -1- MASS SPECTROMETRY: MW=8597.5; METHOD=ELECTROSPRAY; RANGE=40-119.
CC -1- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
   C-X-C) (CHEMOKINE CXCL).
CC -----
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   or send an email to license@isb-sib.ch).
CC -----
DR EMBL; X77935; G457754; -.
DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
DR PFAM; PF00048; i18; 1.
DR HSP; P02775; INAP.
KW CYTOKINE; GROWTH FACTOR; CHEMOTAXIS; MITOGEN; PLATELET; SIGNAL.
FT SIGNAL 1 33 PROBABLE.
FT PROPEP 34 39
FT CHAIN 40 119 PLATELET BASIC PROTEIN.
FT DISULFID 54 80 BY SIMILARITY.
FT DISULFID 56 96 BY SIMILARITY.
SQ SEQUENCE 119 AA; 12615 MW; 607F3E47 CRC32;

Query Match 68.6%; Score 59; DB 1; Length 119;
Best Local Similarity 50.0%; Pred. No. 1.50e-02;
Matches 6; Conservative 3; Mismatches 3; Indels 0; Gaps 0;

Db 94 KICLDPEAPRIK 105
   1 1111111111
Qy 1 KACLNPASPMVK 12

RESULT 14
ID PF4L_HUMAN STANDARD; PRT; 128 AA.
AC P02775;

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DT 21-JUL-1986 (REL. 01, CREATED)
DT 01-NOV-1991 (REL. 20, LAST SEQUENCE UPDATE)
DT 15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)
DE PLATELET BASIC PROTEIN PRECURSOR (PBP) [CONTAINS: CONNECTIVE-TISSUE
DE ACTIVATING PEPTIDE III (CTAP-III); LOW-AFFINITY PLATELET FACTOR IV
DE (LA-PF4); BETA-THROMBOGLOBULIN (BETA-TG); NEUTROPHIL-ACTIVATING
DE PEPTIDE 2 (NAP-2)].
GN PBP OR CTAP3 OR TGB1 OR THGB1.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC PRIMATES; CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE; 91170256.
RA MAJUMDAR S., GONDER D., KOUTSIS B., PONCZ M.;
RT "Characterization of the human beta-thromboglobulin gene. Comparison
   with the gene for platelet factor 4.";
RL J. BIOL. CHEM. 266:5785-5789(1991).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE; 89229374.
RA WENGER R.H., WICKI A.N., WALZ A., KIEFFER N., CLEMETSON K.J.;
RT "Cloning of cDNA coding for connective tissue activating peptide III
   from a human platelet-derived lambda gt11 expression library.";
RL BLOOD 73:1498-1503(1989).
RN [3]
RP SEQUENCE OF 35-53.
RX MEDLINE; 86216117.
RA HOLT J.C., HARRIS M.E., HOLT A.M., LANGE E., HENSCHEN A.,
RA NIEWIAROWSKI S.;
RT "Characterization of human platelet basic protein, a precursor form
   of low-affinity platelet factor 4 and beta-thromboglobulin.";
RL BIOCHEMISTRY 25:1988-1996(1986).
RN [4]
RP SEQUENCE OF 44-66 AND 125-128.
RX MEDLINE; 83144010.
RA CASTOR C.W., MILLER J.W., WALZ D.A.;
RT "Structural and biological characteristics of connective tissue
   activating peptide (CTAP-III), a major human platelet-derived growth
   factor.";
RL PROC. NATL. ACAD. SCI. U.S.A. 80:765-769(1983).
RN [5]
RP SEQUENCE OF 48-126.
RX MEDLINE; 78187279.
RA BEGG G.S., PEPPER D.S., CHESTERMAN C.N., MORGAN F.J.;
RT "Complete covalent structure of human beta-thromboglobulin.";
RN [6]
RP SEQUENCE OF 59-126.
RX MEDLINE; 89193761.
RA WALZ A., BAGGIOLINI M.;
RT "A novel cleavage product of beta-thromboglobulin formed in cultures
   of stimulated mononuclear cells activates human neutrophils.";
RL BIOCHEM. BIOPHYS. RES. COMMUN. 159:969-981(1989).
RN [7]
RP SEQUENCE OF 57-68.
RX MEDLINE; 89391960.
RA CASTOR C.W., WALZ D.A., RAGSDALE C.G., HOSSLER P.A., SMITH E.M.,
RA BIGNALL M.C., AARON B.P., MOUNTJOY K.;
RT "Connective tissue activation. XXXIII. Biologically active cleavage
   products of CTAP-III from human platelets.";
RL BIOCHEM. BIOPHYS. RES. COMMUN. 163:1071-1078(1989).
RN [8]
RP SEQUENCE OF 59-67.
RX MEDLINE; 90155110.
RA WALZ A., BAGGIOLINI M.;
RT "Generation of the neutrophil-activating peptide NAP-2 from platelet
   basic protein or connective tissue-activating peptide III through
   monocyte proteases.";
RL J. EXP. MED. 171:449-454(1990).
RN [9]
RP SYNTHESIS OF 59-126.
RX MEDLINE; 91175767.

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RA CLARK-LEWIS I., MOSE B., WALZ A., BAGGIOLINI M., SCOTT G.J.,
RA AEBERSOLD R.;
RT "Chemical synthesis, purification, and characterization of two
RT inflammatory proteins, neutrophil activating peptide 1
RT (interleukin-8) and neutrophil activating peptide-2";
RL BIOCHEMISTRY 30:3128-3135(1991).
RN [10]
RP X-RAY CRYSTALLOGRAPHY OF 59-128.
RX MEDLINE: 94307404.
RA KUNGL A.J., MACHUIS M., HUBER R., SCHWER C., LAM C., ASCHAUER H.,
RA EHN G., LINDLEY I.J.D., AUER M.;
RT "Purification, crystallization and preliminary X-ray diffraction
RT analysis of recombinant human neutrophil-activating peptide 2
RT (rhNAP-2).";
RL FEBS LETT. 347:300-303(1994).
RN [11]
RP X-RAY CRYSTALLOGRAPHY (1.9 ANGSTROMS) OF 59-128.
RX MEDLINE: 95221354.
RA MALKOWSKI M.G., WU J.Y., LAZAR J.B., JOHNSON P.H., EDWARDS B.F.P.;
RT "The crystal structure of recombinant human neutrophil-activating
RT peptide-2 (M6L) at 1.9-A resolution.";
RL J. BIOL. CHEM. 270:7077-7087(1995).
CC -!- FUNCTION: LA-PF4A STIMULATES DNA SYNTHESIS, MITOSIS, GLYCOLYSIS,
CC INTRACELLULAR CAMP ACCUMULATION, PROSTAGLANDIN E2 SECRETION, AND
CC SYNTHESIS OF HYALURONIC ACID AND SULFATED GLYCOSAMINOGLYCAN. IT
CC ALSO STIMULATES THE FORMATION AND SECRETION OF PLASMINOGEN
CC ACTIVATOR BY HUMAN SYNIOVAL CELLS. NAP-2 IS A POTENT
CC CHEMOATTRACTANT AND ACTIVATOR FOR NEUTROPHILS.
CC -!- SUBUNIT: BETA-THROMBOGLOBULIN IS AN HOMOTETRAMER.
CC -!- PTM: PROTEOLYTIC REMOVAL OF RESIDUES 1-9 PRODUCES THE ACTIVE
CC PEPTIDE CONNECTIVE-TISSUE ACTIVATING PEPTIDE III (CTAP III) (LOW-
CC AFFINITY PLATELET FACTOR IV (LA-PF4)).
CC -!- PTM: PROTEOLYTIC REMOVAL OF RESIDUES 1-13 PRODUCES THE ACTIVE
CC PEPTIDE BETA-THROMBOGLOBULIN, WHICH IS RELEASED FROM PLATELETS
CC ALONG WITH PLATELET FACTOR 4 AND PLATELET-DERIVED GROWTH FACTOR.
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
CC C-X-C) (CHEMOKINE CXCL).
CC
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CC -----
DR EMBL: M54995; G181176; -
DR PIR: A39546; TGHU.
DR PIR: A24448; A24448.
DR PIR: A37382; A37382.
DR PDB: 1NAP; 19-DEC-95.
DR PDB: 1TVX; 11-JAN-97.
DR SWISS-2DPAGE: P02775; HUMAN.
DR MIM: 121010; -
DR PROSITE: PS00471; SMALL_CYTOKINES_CXC; 1.
DR PFAM: PF00048; i18; 1.
KW CYTOKINE; CONNECTIVE TISSUE; GROWTH FACTOR; CHEMOTAXIS; MITOGEN;
KW PLATELET; SIGNAL; 3D-STRUCTURE.
FT SIGNAL 1 34
FT CHAIN 35 128 PLATELET BASIC PROTEIN (PBP).
FT CHAIN 44 128 LA-PF4 / CTAP-III.
FT CHAIN 48 128 BETA-THROMBOGLOBULIN.
FT CHAIN 59 128 NAP-2.
FT DISULFID 63 89
FT DISULFID 65 105
SQ SEQUENCE 128 AA; 13894 MW; 15B7D1DF CRC32;

Query Match 68.6%; Score 59; DB 1; Length 128;
Best Local Similarity 50.0%; Pred. No. 1.50e-02;
Matches 6; Conservative 3; Mismatches 3; Indels 0; Gaps 0;

Db 103 KICLDPDAPRIK 114
| | | | | | | |

QY 1 KACLNPASPMVK 12

RESULT 15
ID GCP2_BOVIN STANDARD; PRT; 75 AA.
AC P80221;
DT 01-FEB-1994 (REL. 28, CREATED)
DT 01-FEB-1994 (REL. 28, LAST SEQUENCE UPDATE)
DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
DE GRANULOCYTE CHEMOTACTIC PROTEIN 2 (GCP-2).
GN SCYB6 OR GCP2.
OS BOS TAURUS (BOVINE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC ARTIODACTYLA; RUMINANTIA; PECORA; BOVIDAE; BOVINA; BOS.
RN [1]
RP SEQUENCE.
RC TISSUE-KIDNEY;
RX MEDLINE: 94001982.
RA PROOST P., WUYTS A., CONINGS R., LENAERTS J.-P., BILLIAU A.,
RA OPDENAKKER G., VAN DAMME J.;
RT "Human and bovine granulocyte chemotactic protein-2: complete amino
RT acid sequence and functional characterization as chemokines.";
RL BIOCHEMISTRY 32:10170-10177(1993).
CC -!- FUNCTION: CHEMOTACTIC FOR NEUTROPHIL GRANULOCYTES.
CC -!- SUBCELLULAR LOCATION: SECRETED.
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
CC C-X-C) (CHEMOKINE CXCL).
DR PIR: B54188; B54188.
DR PROSITE: PS00471; SMALL_CYTOKINES_CXC; 1.
DR PFAM: PF00048; i18; 1.
DR HSP: P02775; INAP.
KW CYTOKINE; CHEMOTAXIS; HEPARIN-BINDING.
FT VARIANT 1 2 MISSING (N-TERMINAL PROCESSING VARIANT).
FT VARIANT 1 7 MISSING (N-TERMINAL PROCESSING VARIANT).
FT VARIANT 1 8 MISSING (N-TERMINAL PROCESSING VARIANT).
FT VARIANT 1 9 MISSING (N-TERMINAL PROCESSING VARIANT).
FT DISULFID 12 38 BY SIMILARITY.
FT DISULFID 14 54 BY SIMILARITY.
SQ SEQUENCE 75 AA; 7931 MW; B747167F CRC32;

Query Match 67.4%; Score 58; DB 1; Length 75;
Best Local Similarity 50.0%; Pred. No. 2.68e-02;
Matches 5; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 54 CLDPEAPLIK 63
| | | | | | | |
QY 3 CLNPASPMVK 12

Search completed: Fri Feb 4 18:09:35 2000
Job time : 7 secs.

W P E R L (TM)

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MPSrch_pp protein - protein database search, using Smith-Waterman algorithm

Run on: Fri Feb 4 18:08:36 2000; MasPar time 3.62 Seconds
Tabular output not generated. 132.864 Million cell updates/sec

Title: >US-09-150-813-73
Description: (1-12) from US09150813.pep
Perfect Score: 86
Sequence: 1 KACLPASPVMK 12

Scoring table: PAM 150
Gap 15

Searched: 122810 seqs, 40068593 residues

Post-processing: Minimum Match 0%
Listing first 45 summaries

Database: pir60
1:pir1 2:pir2 3:pir3 4:pir4

Statistics: Mean 23.220; Variance 28.384; scale 0.818

pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match | Length | ID | Description | Pred. No. |
|------------|-------|-------------|--------|----|-------------|-----------------------|
| 1 | 86 | 100.0 | 107 | 2 | JH0281 | macrophage inflammato |
| 2 | 79 | 91.9 | 107 | 2 | B38290 | GRO-gamma precursor |
| 3 | 77 | 89.5 | 107 | 2 | A28414 | melanoma growth-stimu |
| 4 | 66 | 76.7 | 101 | 2 | B28414 | growth-regulated prot |
| 5 | 64 | 74.4 | 53 | 2 | I64831 | gene KC protein - rat |
| 6 | 64 | 74.4 | 96 | 2 | JN0372 | neutrophil chemo-atr |
| 7 | 60 | 69.8 | 100 | 2 | JH0200 | macrophage inflammato |
| 8 | 59 | 68.6 | 119 | 2 | S42881 | platelet basic protei |
| 9 | 59 | 68.6 | 128 | 1 | TGHU | beta-thromboglobulin |
| 10 | 58 | 67.4 | 75 | 2 | B54188 | granulocyte chemotact |
| 11 | 58 | 67.4 | 161 | 1 | UBURAL | tubulin alpha chain - |
| 12 | 58 | 67.4 | 371 | 2 | A61275 | tubulin alpha-2 chain |
| 13 | 58 | 67.4 | 387 | 2 | S33517 | tubulin alpha chain - |
| 14 | 58 | 67.4 | 411 | 1 | UBCHA | tubulin alpha chain - |
| 15 | 58 | 67.4 | 444 | 2 | A56635 | tubulin alpha chain - |
| 16 | 58 | 67.4 | 444 | 2 | S25004 | tubulin alpha chain - |
| 17 | 58 | 67.4 | 448 | 2 | I77427 | tubulin alpha chain - |
| 18 | 58 | 67.4 | 448 | 2 | A25873 | tubulin alpha chain - |
| 19 | 58 | 67.4 | 449 | 2 | S00253 | tubulin alpha chain - |
| 20 | 58 | 67.4 | 449 | 2 | B26488 | tubulin alpha-2 chain |
| 21 | 58 | 67.4 | 449 | 2 | I77428 | tubulin alpha chain - |
| 22 | 58 | 67.4 | 450 | 2 | S43138 | tubulin alpha chain - |
| 23 | 58 | 67.4 | 450 | 2 | I77426 | tubulin alpha chain - |

24 58 67.4 450 2 A56622 tubulin alpha chain, 1.11e-01
25 58 67.4 450 2 C26488 tubulin alpha-3 chain 1.11e-01
26 58 67.4 450 2 A26488 tubulin alpha-1 chain 1.11e-01
27 58 67.4 450 2 S52152 tubulin alpha chain - 1.11e-01
28 58 67.4 451 2 C24903 tubulin alpha-3 chain 1.11e-01
29 58 67.4 451 2 A24903 tubulin alpha-1 chain 1.11e-01
30 58 67.4 451 1 UBPGA tubulin alpha chain - 1.11e-01
31 58 67.4 451 2 A48433 tubulin alpha chain - 1.11e-01
32 58 67.4 451 1 UBRTA tubulin alpha chain (1.11e-01
33 58 67.4 451 2 A23035 tubulin alpha chain - 1.11e-01
34 58 67.4 451 2 I77424 tubulin alpha chain i 1.11e-01
35 58 67.4 451 2 I77425 tubulin alpha chain - 1.11e-01
36 58 67.4 451 2 B24903 tubulin alpha chain, 1.11e-01
37 58 67.4 451 2 JC4133 tubulin alpha-1 chain 1.11e-01
38 58 67.4 451 2 I77403 tubulin alpha chain - 1.11e-01
39 58 67.4 452 2 S42033 tubulin alpha chain - 1.11e-01
40 58 67.4 452 2 S11207 tubulin alpha chain - 1.11e-01
41 58 67.4 452 2 A60671 tubulin alpha chain - 1.11e-01
42 58 67.4 614 2 S58444 SUP35 protein - Afric 1.11e-01
43 57 66.3 96 2 A32954 gro-alpha precursor - 1.86e-01
44 57 66.3 240 2 A61544 tubulin alpha chain - 1.86e-01
45 57 66.3 451 2 S43425 tubulin alpha chain - 1.86e-01

ALIGNMENTS

RESULT 1
ENTRY JH0281 #type complete
TITLE macrophage inflammatory protein 2 alpha precursor - human
ALTERNATE_NAMES gro-beta; growth regulated protein beta; melanoma growth-stimulatory activity; monocyte adherence-induced protein 2
ORGANISM #formal_name Homo sapiens #common_name man
DATE 30-Sep-1991 #sequence_revision 30-Sep-1991 #text_change 31-Oct-1997
ACCESSIONS JH0281; A35931; A38290; A60407
REFERENCE JH0200
#authors Tekamp-Olson, P.; Gallegos, C.; Bauer, D.; McClain, J.; Sherry, B.; Fabre, M.; van Deventer, S.; Cerami, A.
#journal J. Exp. Med. (1990) 172:911-919
#title Cloning and characterization of cDNAs for murine macrophage inflammatory protein 2 and its human homologues.
#cross-references MIM:60354792
#accession JH0281
##molecule_type mRNA
##residues 1-107 #label TEK
##cross-references GB:X53799; NID:G34658; PID:G34659
REFERENCE A35931
#authors Iida, N.; Grotendorst, G.R.
#journal Mol. Cell. Biol. (1990) 10:5596-5599
#title Cloning and sequencing of a new gro transcript from activated human monocytes: expression in leukocytes and wound tissue.
#cross-references MIM:60377259
#accession A35931
##molecule_type mRNA
##residues 1-107 #label IID
##cross-references GB:M57731; GB:M36964; NID:G183626; PID:G183627
REFERENCE A38290
#authors Haskill, S.; Pearce, A.; Morris, J.; Sporn, S.A.; Anisowicz, A.; Lee, S.W.; Smith, T.; Martin, G.; Ralph, P.; Sager, R.
#journal Proc. Natl. Acad. Sci. U.S.A. (1990) 87:7732-7736
#title Identification of three related human GRO genes encoding cytokine functions.
#cross-references MIM:91017578
#accession A38290
##molecule_type mRNA
##residues 1-107 #label HAS
##cross-references GB:M36820; NID:G183628; PID:G183629
REFERENCE A60407
#authors Sporn, S.A.; Eierman, D.F.; Johnson, C.E.; Morris, J.; Martin, G.; Ladner, M.; Haskill, S.
#journal J. Immunol. (1990) 144:4434-4441
#title Monocyte adherence results in selective induction of novel

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genes sharing homology with mediators of inflammation and
tissue repair.
#cross-references MUID:90257367
#accession A60407
##status not compared with conceptual translation
##molecule_type mRNA
##residues 56-107 #label SPO
CLASSIFICATION #superfamily beta-thromboglobulin
KEYWORDS inflammation
FEATURE
1-34 #domain signal sequence #status predicted #label SIG\
35-107 #product macrophage inflammatory protein 2 alpha #status
predicted #label MAT
SUMMARY #length 107 #molecular-weight 11389 #checksum 929
Query Match 100.0%; Score 86; DB 2; Length 107;
Best Local Similarity 100.0%; Pred. No. 1-27e-08;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 83 KACLNPASPMVK 94
| | | | | | | | | |
Qy 1 KACLNPASPMVK 12

RESULT 2
ENTRY #type complete
TITLE GRO-gamma precursor - human
ALTERNATE_NAMES growth-regulated protein gamma; macrophage inflammatory
protein 2 beta
ORGANISM #formal_name Homo sapiens #common_name man
DATE 31-May-1991 #sequence_revision 27-Oct-1995 #text_change
ACCESSION JH0282; B38290; C46519
REFERENCE JH0280
#authors Tekamp-Olson, P.; Gallegos, C.; Bauer, D.; McClain, J.;
Sherry, B.; Fabre, M.; van Deventer, S.; Cerami, A.
#journal J. Exp. Med. (1990) 172:911-919
#title Cloning and characterization of cDNAs for murine macrophage
inflammatory protein 2 and its human homologues.
#cross-references MUID:90354792
#accession JH0282
##molecule_type mRNA
##residues 1-107 #label TEK
##cross-references GB:X53800; NID:g34662; PID:g34663
REFERENCE A38290
#authors Haskill, S.; Peace, A.; Morris, J.; Sporn, S.A.; Anisowicz,
A.; Lee, S.W.; Smith, T.; Martin, G.; Ralph, P.; Sager, R.
#journal Proc. Natl. Acad. Sci. U.S.A. (1990) 87:7732-7736
#title Identification of three related human GRO genes encoding
cytokine functions.
#cross-references MUID:91017578
#accession B38290
##molecule_type mRNA
##residues 1-26, 'G', 29-107 #label HAS
##cross-references GB:M36821; NID:g183632; PID:g183633
REFERENCE A46519
#authors Proost, P.; De Wolf-Peeters, C.; Conings, R.; Opdenakker, G.;
Billiau, A.; Van Damme, J.
#journal J. Immunol. (1993) 150:1000-1010
#title Identification of a novel granulocyte chemotactic protein
(GCP-2) from human tumor cells. In vitro and in vivo
comparison with natural forms of GRO, IP-10, and IL-8.
#cross-references MUID:93139489
#accession C46519
##molecule_type protein
##residues 35-52 #label PRO
##experimental_source MG-63 osteosarcoma cells
GENETICS
#map position 4q21
CLASSIFICATION #superfamily beta-thromboglobulin
FEATURE
1-34 #domain signal sequence #status predicted #label SIG\
35-107 #product GRO-gamma #status experimental #label MAT

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SUMMARY #length 107 #molecular-weight 11342 #checksum 2559
Query Match 91.9%; Score 79; DB 2; Length 107;
Best Local Similarity 100.0%; Pred. No. 8.69e-07;
Matches 11; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 83 KACLNPASPMV 93
| | | | | | | | | |
Qy 1 KACLNPASPMV 11

RESULT 3
ENTRY #type complete
TITLE melanoma growth-stimulatory activity precursor - human
ALTERNATE_NAMES fibroblast-derived neutrophil-activating protein gamma;
GRO-alpha; growth regulated protein; MGSA; NAP-3 melanoma
mitogenic protein
ORGANISM #formal_name Homo sapiens #common_name man
DATE 30-Jun-1989 #sequence_revision 30-Jun-1989 #text_change
ACCESSION S13669; A28414; S00983; B60401; S03976; A47626; B46519
REFERENCE S13669
#authors Baker, N.E.; Kucera, G.; Richmond, A.
#journal Nucleic Acids Res. (1990) 18:6453
#title Nucleotide sequence of the human melanoma growth stimulatory
activity (MGSA) gene.
#cross-references MUID:91057157
#accession S13669
##status preliminary
##molecule_type DNA
##residues 1-107 #label BAK
##cross-references EMBL:X54489; NID:g34625; PID:g34626
REFERENCE A94184
#authors Anisowicz, A.; Bardwell, L.; Sager, R.
#journal Proc. Natl. Acad. Sci. U.S.A. (1987) 84:7188-7192
#title Constitutive overexpression of a growth-regulated gene in
transformed Chinese hamster and human cells.
#cross-references MUID:88041072
#accession A28414
##molecule_type mRNA
##residues 1-107 #label ANI
##cross-references GB:J03561; NID:g183622; PID:g306806
REFERENCE S00983
#authors Richmond, A.; Balentien, E.; Thomas, H.G.; Flagg, G.;
Barton, D.E.; Spiess, J.; Bordon, R.; Francke, U.;
Derynck, R.
#journal EMBO J. (1988) 7:2025-2033
#title Molecular characterization and chromosomal mapping of
melanoma growth stimulatory activity, a growth factor
structurally related to beta-thromboglobulin.
#cross-references MUID:88328991
#accession S00983
##molecule_type mRNA
##residues 1-107 #label RIC
##cross-references EMBL:X12510; NID:g34621; PID:g34622
REFERENCE A60401
#authors Schroeder, J.M.; Sticherling, M.; Henneicke, H.H.; Preissner,
W.C.; Christophers, E.
#journal J. Immunol. (1990) 144:2223-2232
#title IL-1alpha or tumor necrosis factor-alpha stimulate release of
three NAP-1/IL-8-related neutrophil chemotactic proteins in
human dermal fibroblasts.
#cross-references MUID:90187866
#accession B60401
##molecule_type protein
##residues 35-42, 'X', 44, 'X', 46-48 #label SCH
##experimental_source dermal fibroblasts
REFERENCE S03975
#authors Golds, E.E.; Mason, P.; Nyirkos, P.
#journal Biochem. J. (1989) 259:585-588
#title Inflammatory cytokines induce synthesis and secretion of gro
protein and a neutrophil chemotactic factor but not
beta-2-microglobulin in human synovial cells and

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fibroblasts.
##cross-references MUID:89246368
#accession S03976
##molecule_type protein
##residues 35-41,'X','X',43-49,'X',51-52,'XX',55-57 #label GOL
REFERENCE A47626
#authors Schroeder, J.M.; Persoon, N.L.M.; Christophers, E.
#journal J. Exp. Med. (1990) 171:1091-1100
#title Lipopolysaccharide-stimulated human monocytes secrete, apart
from neutrophil-activating peptide 1/interleukin 8, a
second neutrophil-activating protein. NH-2-terminal amino
acid sequence identity with melanoma growth stimulatory
activity.
#accession A47626
##molecule_type protein
##residues 35-63,'X','X',65 #label SC2
##experimental_source LPS-stimulated monocytes
REFERENCE A46519
#authors Proost, P.; De Wolf-Peeters, C.; Conings, R.; Opdenakker, G.;
Billiau, A.; Van Damme, J.
#journal J. Immunol. (1993) 150:1000-1010
#title Identification of a novel granulocyte chemotactic protein
(GCP-2) from human tumor cells. In vitro and in vivo
comparison with natural forms of GRO, IP-10, and IL-8.
#cross-references MUID:93139489
#accession B46519
##molecule_type protein
##residues 35-62 #label PRO
##experimental_source MG-63 osteosarcoma cells
GENETICS
#gene GDB:GRO1
##cross-references GDB:120181; OMIM:155730
#map_position 4q21-4q21
CLASSIFICATION #superfamily beta-thromboglobulin
FEATURE
1-34 #domain signal sequence #status predicted #label SIG\
35-107 #product melanoma growth-stimulatory activity #status
experimental #label MAT
SUMMARY #length 107 #molecular-weight 11301 #checksum 1301
Query Match 89.5%; Score 77; DB 2; Length 107;
Best Local Similarity 91.7%; Pred. No. 2.84e-06;
Matches 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
Db 83 KACLNPAPIVK 94
QY 1 KACLNPAAPMV 12
|||||:|||||
RESULT 4
ENTRY B28414 #type complete
TITLE growth-regulated protein precursor - Chinese hamster
ORGANISM #formal_name Crictetus griseus #common_name Chinese hamster
DATE 30-Jun-1989 #sequence_revision 30-Jun-1989 #text_change
20-Mar-1998
ACCESSIONS B28414
REFERENCE A94184
#authors Anisowicz, A.; Bardwell, L.; Sager, R.
#journal Proc. Natl. Acad. Sci. U.S.A. (1987) 84:7188-7192
#title Constitutive overexpression of a growth-regulated gene in
transformed Chinese hamster and human cells.
#cross-references MUID:88041072
#accession B28414
##molecule_type mRNA
##residues 1-101 #label ANI
##cross-references GB:J03560; NID:g191088; PID:g304509
##note the authors translated the codon CAG for residue 52 as
Glu
CLASSIFICATION #superfamily beta-thromboglobulin
FEATURE
1-23 #domain signal sequence #status predicted #label SIG\
24-101 #product growth-regulated protein #status predicted
#label MAT

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SUMMARY #length 101 #molecular-weight 10893 #checksum 3057
Query Match 76.7%; Score 66; DB 2; Length 101;
Best Local Similarity 80.0%; Pred. No. 1.53e-03;
Matches 8; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
Db 78 ACLNPEAPMV 87
QY 2 ACLNPAAPMV 11
|||||:|||||
RESULT 5
ENTRY I64831 #type fragment
TITLE gene KC protein - rat (fragment)
ORGANISM #formal_name Rattus sp. #common_name rat
DATE 02-Aug-1996 #sequence_revision 02-Aug-1996 #text_change
23-Feb-1997
ACCESSIONS I64831
REFERENCE I51886
#authors Huang, S.; Paulauskis, J.D.; Godleski, J.J.; Kobzik, L.
#journal Am. J. Pathol. (1992) 141:981-988
#title Expression of macrophage inflammatory protein-2 and KC mRNA
in pulmonary inflammation.
#cross-references MUID:93035653
#accession I64831
##status preliminary; translated from GB/EMBL/DBJ
##molecule_type mRNA
##residues 1-53 #label RES
##cross-references GB:S45856; NID:g257055
GENETICS
#gene KC
CLASSIFICATION #superfamily beta-thromboglobulin
SUMMARY #length 53 #checksum 8839
Query Match 74.4%; Score 64; DB 2; Length 53;
Best Local Similarity 70.0%; Pred. No. 4.58e-03;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;
Db 39 ACLDPEAPMV 48
QY 2 ACLNPAAPMV 11
|||||:|||||
RESULT 6
ENTRY JN0572 #type complete
TITLE neutrophil chemo-attractant gro protein precursor - rat
ALTERNATE_NAMES CINC; cytokine-induced neutrophil chemoattractant;
interleukin-8-like chemokine
ORGANISM #formal_name Rattus norvegicus #common_name Norway rat
DATE 30-Sep-1993 #sequence_revision 30-Sep-1993 #text_change
08-Sep-1997
ACCESSIONS JN0572; JQ1519; A34481; A48988; B48988; S51214
REFERENCE JN0572
#authors Konishi, K.; Takata, Y.; Yamamoto, M.; Yomogida, K.;
Watanabe, K.; Tsurufuji, S.; Fujioaka, M.
#journal Gene (1993) 126:285-286
#title Structure of the gene encoding rat neutrophil
chemo-attractant Gro.
#cross-references MUID:93246259
#accession JN0572
##molecule_type DNA
##residues 1-96 #label KON
##cross-references DDBJ:D11445; NID:g391854; PID:d1002491; PID:g220755
REFERENCE JQ1519
#authors Huang, S.; Paulauskis, J.D.; Kobzik, L.
#journal Biochem. Biophys. Res. Commun. (1992) 184:922-929
#title Rat KC cDNA cloning and mRNA expression in lung macrophages
and fibroblasts.
#cross-references MUID:92246987
#accession JQ1519
##molecule_type mRNA
##residues 1-32,'S',34-96 #label HUA
##cross-references GB:M86536

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##experimental_source alveolar macrophage
##note the authors translated the codon AGT for residue 33 as
Cys, AAC for residue 46 as Gln
REFERENCE
#authors A34481
#journal Watanabe, K.; Konishi, K.; Fujioka, M.; Kinoshita, S.;
#title Nakagawa, H.
J. Biol. Chem. (1989) 264:19559-19563
The neutrophil chemoattractant produced by the rat kidney
epithelioid cell line NRK-52E is a protein related to the
KC/gro protein.
#cross-references MUID:90062049
#accession A34481
#molecule_type protein
#residues 25-96 #label WAT
REFERENCE
#authors A48988
#journal Nakagawa, H.; Ikesue, A.; Hatakeyama, S.; Kato, H.; Gotoda,
#title T.; Konorita, N.; Watanabe, K.; Miyai, H.
Biochem. Pharmacol. (1993) 45:1425-1430
Production of an interleukin-8-like chemokine by
cytokine-stimulated rat NRK-49F fibroblasts and its
suppression by anti-inflammatory steroids.
#cross-references MUID:93228656
#accession A48988
#status preliminary
#molecule_type protein
#residues 25-57 #label NAK
##experimental_source kidney, NRK-49F fibroblasts
##note sequence extracted from NCBI backbone (NCBIP:129132)
#accession B48988
#status preliminary
#molecule_type protein
#residues 25-57 #label NA2
##experimental_source kidney, NRK-49F fibroblasts
##note sequence extracted from NCBI backbone (NCBIP:129131)
REFERENCE
#authors S51214
#journal Hanzawa, H.; Haruyama, H.; Watanabe, K.; Tsurufuji, S.
#title FEBS Lett. (1994) 354:207-212
The three dimensional structure of rat cytokine CINC/Gro in
solution by homonuclear 3D NMR.
#cross-references MUID:95046335
#contents annotation: conformation by (1)H-NMR, residues 25-96
#accession S51214
#molecule_type protein
#residues 25-96 #label HAN
COMMENT This protein has chemotactic activity for neutrophils and has
melanoma growth-stimulating activity.
GENETICS
#gene gro; KC
#introns 24/1; 65/2; 92/2
CLASSIFICATION #superfamily beta-thromboglobulin
KEYWORDS cytokine; disulfide bond
FEATURE
1-24 #domain signal sequence #status predicted #label SIG\
25-96 #product neutrophil chemo-attractant Gro protein #status
experimental #label CYT
SUMMARY #length 96 #molecular-weight 10249 #checksum 5749
Query Match 74.4%; Score 64; DB 2; Length 96;
Best Local Similarity 70.0%; Pred. No. 4.58e-03;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;
Db 74 ACLDPEAPMV 83
QY 2 ACLNPASPMV 11
RESULT 7
ENTRY JH0200 #type complete
TITLE macrophage inflammatory protein 2 precursor - mouse
ORGANISM #formal name Mus musculus #common name house mouse
DATE 30-Sep-1991 #sequence_revision 30-Sep-1991 #text_change
08-Sep-1997
ACCESSIONS JH0200; A32190

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JH0200
Tekamp-Olson, P.; Gallegos, C.; Bauer, D.; McClain, J.;
Sherry, B.; Fabre, M.; van Deventer, S.; Cerami, A.
J. Exp. Med. (1990) 172:911-919
Cloning and characterization of cDNAs for murine macrophage
inflammatory protein 2 and its human homologues.
#cross-references MUID:90354792
#accession JH0200
#molecule_type mRNA
#residues 1-100 #label TEK
##cross-references GB:X53798; NID:g53128; PID:g53129
REFERENCE
#authors A32190
#journal Wolpe, S.D.; Sherry, B.; Juers, D.; Davatelis, G.; Yurt,
#title R.W.; Cerami, A.
Proc. Natl. Acad. Sci. U.S.A. (1989) 86:612-616
Identification and characterization of macrophage
inflammatory protein 2.
#cross-references MUID:89098980
#accession A32190
#molecule_type protein
#residues 28-59 #label WOL
CLASSIFICATION #superfamily beta-thromboglobulin
KEYWORDS heparin binding
FEATURE
1-27 #domain signal sequence #status predicted #label SIG\
28-100 #product macrophage inflammatory protein 2 #status
experimental #label MAT
SUMMARY #length 100 #molecular-weight 10621 #checksum 8720
Query Match 69.8%; Score 60; DB 2; Length 100;
Best Local Similarity 54.5%; Pred. No. 3.91e-02;
Matches 6; Conservative 3; Mismatches 2; Indels 0; Gaps 0;
Db 76 KVCLDPEAPLV 86
QY 1 KACLNPASPMV 11
RESULT 8
ENTRY S42881 #type complete
TITLE platelet basic protein - pig
ORGANISM #formal name Sus scrofa domestica #common name domestic pig
DATE 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change
17-Mar-1999
ACCESSIONS S43460; S42881
REFERENCE S43460
#authors Power, C.A.; Proudfoot, A.E.I.; Magnenat, E.; Bacon, K.B.;
Wells, T.N.C.
#journal Eur. J. Biochem. (1994) 221:713-719
#title Molecular cloning and characterisation of a neutrophil
chemotactic protein from porcine platelets.
#cross-references MUID:94229068
#accession S43460
#status preliminary
#molecule_type mRNA
#residues 1-119 #label POW
##cross-references EMBL:X77935; NID:g457753; PID:g457754
CLASSIFICATION #superfamily beta-thromboglobulin
SUMMARY #length 119 #molecular-weight 12615 #checksum 9198
Query Match 68.6%; Score 59; DB 2; Length 119;
Best Local Similarity 50.0%; Pred. No. 6.60e-02;
Matches 6; Conservative 3; Mismatches 3; Indels 0; Gaps 0;
Db 94 KICLDPEAPRIK 105
QY 1 KACLNPASPMVK 12
RESULT 9
ENTRY TGHU #type complete
TITLE beta-thromboglobulin precursor - human
CONTAINS connective-tissue activating peptide III; CTAP-III;

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histamine-releasing factor; neutrophil-activating peptide
2; platelet basic protein
#formal_name Homo sapiens #common_name man
30-Apr-1979 #sequence_revision 31-Dec-1992 #text_change
26-Feb-1999
ACCESSIONS A39546; A37382; A24448; PLO222; A93982; A90411; A60709;
A61240; B61240; A03240; A30159; A33516; S46247
REFERENCE A39546
#authors Majumdar, S.; Gonder, D.; Koutsis, B.; Poncz, M.
#journal J. Biol. Chem. (1991) 266:5785-5789
#title Characterization of the human beta-thromboglobulin gene.
#cross-references MUIID:91170256
#accession A39546
##molecule_type DNA
##residues 1-128 ##label MAJ
##cross-references GB:M54995; NID:g181175; PID:g181176
##note the authors translated the codon GAT for residue 109 as
Pro
REFERENCE A37382
#authors Wenger, R.H.; Wickl, A.N.; Walz, A.; Kieffer, N.; Clemetson,
K.J.
#journal Blood (1989) 73:1498-1503
#title Cloning of cDNA coding for connective tissue activating
peptide III from a human platelet-derived lamdagtII
expression library.
#cross-references MUIID:89229374
#accession A37382
##molecule_type mRNA
##residues 1-128 ##label WEN
##cross-references GB:M54995; NID:g181175; PID:g181176; GB:M38441
REFERENCE A24448
#authors Holt, J.C.; Harris, M.E.; Holt, A.M.; Lange, E.; Henschel,
A.; Niewiarowski, S.
#journal Biochemistry (1986) 25:1988-1996
#title Characterization of human platelet basic protein, a precursor
form of low-affinity platelet factor 4 and
beta-thromboglobulin.
#cross-references MUIID:86216117
#accession A24448
##molecule_type protein
##residues 35-53 ##label HOL
REFERENCE PLO222
#authors Walz, A.; Baggiolini, M.
#journal J. Exp. Med. (1990) 171:449-454
#title Generation of the neutrophil-activating peptide NAP-2 from
platelet basic protein or connective tissue-activating
peptide III through monocyte proteases.
#cross-references MUIID:90155110
#accession PLO222
##molecule_type protein
##residues 54-67 ##label WAL
REFERENCE A93982
#authors Castor, C.W.; Miller, J.W.; Walz, D.A.
#journal Proc. Natl. Acad. Sci. U.S.A. (1983) 80:765-769
#title Structural and biological characteristics of connective
tissue activating peptide (CTAP-III), a major human
platelet-derived growth factor.
#cross-references MUIID:83144010
#accession A93982
##molecule_type protein
##residues 44-66;125-128 ##label CAS
REFERENCE A90411
#authors Begg, G.S.; Pepper, D.S.; Chesterman, C.N.; Morgan, F.J.
#journal Biochemistry (1978) 17:1739-1744
#title Complete covalent structure of human beta-thromboglobulin.
#cross-references MUIID:78187279
#accession A90411
##molecule_type protein
##residues 48-128 ##label BEG
REFERENCE A60709
#authors Baeza, M.L.; Reddigari, S.R.; Kornfeld, D.; Ramani, N.;
Smith, E.M.; Hossler, P.A.; Fischer, T.; Castor, C.W.;

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Gorevic, P.G.; Kaplan, A.P.
J. Clin. Invest. (1990) 85:1516-1521
#title Relationship of one form of human histamine-releasing factor
to connective tissue activating peptide-III.
#cross-references MUIID:90237229
#accession A60709
##molecule_type protein
##residues 44-62,'X',64-79 ##label BAE
REFERENCE A61240
#authors Kaplan, A.P.; Baeza, M.; Reddigari, S.; Kuna, P.
#journal Int. Arch. Allergy Appl. Immunol. (1991) 94:148-153
#title Histamine-releasing factors.
#cross-references MUIID:92040226
#accession A61240
##molecule_type protein
##residues 44-61,'XX',64 ##label KAP
#accession B61240
##molecule_type protein
##residues 59-62,'X',64-79 ##label KA2
REFERENCE S46247
#authors Kungl, A.J.; Machius, M.; Huber, R.; Schwer, C.; Lam, C.;
Aschauer, H.; Ehn, G.; Lindley, I.J.D.; Auer, M.
#journal FEBS Lett. (1994) 347:300-303
#title Purification, crystallization and preliminary X-ray
diffraction analysis of recombinant human
neutrophil-activating peptide 2 (rhNAP-2).
#cross-references MUIID:94307404
#contents annotation
#comment There appears to be a second beta-thromboglobulin-like human gene.
#comment Connective-tissue activating peptides (CTAP) are a group of
proteins capable of activating connective tissue cells. CTAP-I,
-II, -III and -P2, and -PMN are of lymphoid, tumor cell, human
platelet, and polymorphonuclear leukocyte origin, respectively.
CTAP-III, a monomer isolated from platelets, stimulates DNA
synthesis, mitosis, glycolysis, intracellular CAMP accumulation,
prostaglandin E2 secretion, and synthesis of hyaluronic acid and
sulfated glycosaminoglycan. It also stimulates the formation and
secretion of plasminogen activator by human synovial cells.
#comment Proteolytic removal of the first four residues of CTAP-III produces
the active peptide beta-thromboglobulin, which is released from
platelets along with platelet factor 4 and platelet-derived
growth factor.
GENETICS
#gene GDB:PPBP; THGB1
#cross-references GDB:127391; OMIM:121010
#map_position 4p12-4q13
#introns 50/1; 95/2
CLASSIFICATION #superfamily beta-thromboglobulin
#growth_factor; homotetramer; platelet
KEYWORDS
FEATURE
1-34
35-43
44-128
48-128
59-128
63-89,65-105
#length 128 #molecular-weight 13894 #checksum 6910
#domain signal sequence #status predicted #label SIG\
#domain propeptide #status predicted #label PRO\
#product connective-tissue activating peptide III
#status experimental #label CTAP\
#product beta-thromboglobulin #status experimental
#label BTG\
#product neutrophil-activating peptide 2 #status
experimental #label NAP2\
#disulfide_bonds #status experimental
SUMMARY #length 128 #molecular-weight 13894 #checksum 6910
Query Match 68.6%; Score 59; DB 1; Length 128;
Best Local Similarity 50.0%; Pred. No. 6.60e-02;
Matches 6; Conservative 3; Mismatches 3; Indels 0; Gaps 0;
Db 103 KICLDPDAPRIK 114
| ||| :| :|
Qy 1 KACLNPASPMVK 12
RESULT 10
ENTRY B54188 #type complete
TITLE granulocyte chemotactic protein, GCP-2 - bovine

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ORGANISM #formal_name Bos primigenius taurus #common_name cattle
DATE 13-Sep-1994 #sequence_revision 18-Nov-1994 #text_change
ACCESSIONS B54188
REFERENCE 12-Apr-1995
#authors Proost, P.; Wuyts, A.; Conings, R.; Lenaerts, J.P.; Billiau,
#journal A.; Opdenakker, G.; Van Damme, J.
#title Biochemistry (1993) 32:10170-10177
#cross-references MUID:94001982
#accession B54188
#status preliminary
#molecule_type protein
#residues 1-75 #label PRO
#experimental_source MDBL cells
#note sequence extracted from NCBI backbone (NCBIP:137967)
CLASSIFICATION #superfamily beta-thromboglobulin
SUMMARY #length 75 #molecular_weight 7931 #checksum 8842

Query Match 67.4%; Score 58; DB 2; Length 75;
Best Local Similarity 50.0%; Pred. No. 1.11e-01;
Matches 5; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 54 CLDPEAPLIK 63
QY 3 CLNPASPMVK 12

RESULT 11
ENTRY UBURL #type fragment
TITLE tubulin alpha chain - sea urchin (Lytechinus pictus)
ORGANISM #formal_name Lytechinus pictus #common_name painted urchin
DATE 27-Nov-1985 #sequence_revision 27-Jul-1985 #text_change
10-Jul-1998
ACCESSIONS A02969
REFERENCE A02958
#authors Alexandraki, D.; Ruderman, J.V.
#journal J. Mol. Evol. (1983) 19:397-410
#title Evolution of alpha- and beta-tubulin genes as inferred by the
#cross-references MUID:84090258
#accession A02969
#molecule_type mRNA
#residues 1-161 #label ALE
CLASSIFICATION #superfamily tubulin
KEYWORDS heterodimer; microtubule
FEATURE 160-161 #cleavage_site Glu-Tyr (tubulin-specific
160-161 #cross-link peptide (Glu-Tyr) (by tubulin-tyrosine
ligase) #status predicted
SUMMARY #length 161 #checksum 1974

Query Match 67.4%; Score 58; DB 1; Length 161;
Best Local Similarity 58.3%; Pred. No. 1.11e-01;
Matches 7; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 3 NACFEFANOMVK 14
QY 1 KACLNPASPMVK 12

RESULT 12
ENTRY #type fragments
TITLE tubulin alpha-2 chain - mouse (fragments)
ORGANISM #formal_name Mus musculus #common_name house mouse
DATE 12-May-1994 #sequence_revision 26-May-1994 #text_change
10-Jul-1998
ACCESSIONS S29013; A61275
REFERENCE S29013

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#authors Lewis, S.A.; Lee, M.G.S.; Cowan, N.J.
#journal J. Cell Biol. (1985) 101:852-861
#title Five mouse tubulin isotypes and their regulated expression
#accession S29013
#molecule_type mRNA
#residues 20-371 #label LE2
#cross-references EMBL:M28727; NID:9202224; PID:9202225
REFERENCE A61275
#authors Edder, B.; Rossier, J.; Le Caer, J.P.; Berwald-Netter, Y.;
#journal Koulakoff, A.; Gros, F.; Denoulet, P.
#title J. Cell. Biochem. (1991) 46:134-142
#cross-references MUID:92011952
#accession A61275
#molecule_type protein
#residues 1-19;355-364,'X',366-368 #label EDD
CLASSIFICATION #superfamily tubulin
KEYWORDS acetyllysine; heterodimer; microtubule
FEATURE 13 #binding_site acetyl (Lys) (covalent) #status
365 #binding_site polyglutamate (Glu) (covalent) #status
370-371 #cleavage_site Glu-Tyr (tubulin-specific
370-371 #carboxypeptidase) #status predicted
#cross-link peptide (Glu-Tyr) (by tubulin-tyrosine
ligase) #status predicted
SUMMARY #length 371 #checksum 133

Query Match 67.4%; Score 58; DB 2; Length 371;
Best Local Similarity 58.3%; Pred. No. 1.11e-01;
Matches 7; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 213 NACFEFANOMVK 224
QY 1 KACLNPASPMVK 12

RESULT 13
ENTRY #type fragment
TITLE tubulin alpha chain - marbled electric ray (fragment)
ORGANISM #formal_name Torpedo marmorata #common_name marbled electric
ray
DATE 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change
12-Apr-1995
ACCESSIONS S33517
REFERENCE S33517
#authors Ruiz-Avila, L.; Canals, J.M.; Marsal, J.
#submission submitted to the EMBL Data Library, May 1993
#accession S33517
#status preliminary
#molecule_type mRNA
#residues 1-387 #label RUI
#cross-references EMBL:X71980
CLASSIFICATION #superfamily tubulin
SUMMARY #length 387 #checksum 1954

Query Match 67.4%; Score 58; DB 2; Length 387;
Best Local Similarity 58.3%; Pred. No. 1.11e-01;
Matches 7; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 293 NACFEFANOMVK 304
QY 1 KACLNPASPMVK 12

RESULT 14
ENTRY #type fragment
TITLE tubulin alpha chain - chicken (fragment)
ORGANISM #formal_name Gallus gallus #common_name chicken

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DATE          27-Nov-1985 #sequence_revision 27-Nov-1985 #text_change
              17-Jul-1998
ACCESSIONS    A02968
REFERENCE     A93246
#authors      Valenzuela, P.; Quiroga, M.; Zaldivar, J.; Rutter, W.J.;
              Kirschner, M.W.; Cleveland, D.W.
#journal      Nature (1981) 289:650-655
#title        Nucleotide and corresponding amino acid sequences encoded by
              alpha and beta tubulin mRNAs.
#cross-references MUID:81123093
#accession    A02968
              ##molecule_type mRNA
              ##residues      1-411 ##label VAL
              ##cross-references GB:J00912; NID:g212835; PID:g212836; GB:V00388;
              NID:g63069; PID:g63070
CLASSIFICATION #superfamily tubulin
KEYWORDS       heterodimer; microtubule
FEATURE        102-108
              #region tubulin/FtsZ GTP/GDP-binding (G-G-G-T-G-[ST]-G)
              motif\
405            #binding_site polyglutamate (Glu) (covalent) #status
              predicted\
410-411        #cleavage_site Glu-Tyr (tubulin-specific
              carboxypeptidase) #status predicted\
410-411        #cross-link peptide (Glu-Tyr) (by tubulin-tyrosine
              ligase) #status predicted
SUMMARY        #length 411 #checksum 7596

Query Match      67.4%; Score 58; DB 1; Length 411;
Best Local Similarity 58.3%; Pred. No. 1.11e-01;
Matches          7; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 253 NACFEPANQVVK 264
QY 1 KACLNPASPMVK 12

RESULT 15
ENTRY   A56635 #type complete
TITLE   tubulin alpha chain, brain-specific isotype (clone ptUB5) -
        chum salmon
ORGANISM #formal_name Oncorhynchus keta #common_name chum salmon
DATE     11-Aug-1995 #sequence_revision 11-Aug-1995 #text_change
        02-Jul-1998
ACCESSIONS A56635
REFERENCE   A56635
#authors    Coe, I.R.; Munro, R.; Sherwood, N.M.
#journal     DNA Seq. (1992) 3:257-262
#title       Isolation of different brain-specific isotypes of
              alpha-tubulins from chum salmon (Oncorhynchus keta).
#cross-references MUID:93208376
#contents    brain
#accession   A56635
#status      Preliminary
##molecule_type mRNA
##residues   1-444 ##label COE
##note       sequence inconsistent with nucleotide translation
              sequence extracted from NCBI backbone (NCBIN:128387,
              NCBIP:128388)
CLASSIFICATION #superfamily tubulin
SUMMARY        #length 444 #molecular-weight 49270 #checksum 2659

Query Match      67.4%; Score 58; DB 2; Length 444;
Best Local Similarity 58.3%; Pred. No. 1.11e-01;
Matches          7; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Db 287 NACFEPANQVVK 298
QY 1 KACLNPASPMVK 12

```

Search completed: Fri Feb 4 18:09:10 2000
 Job time : 34 secs.

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MPSrch_pp protein - protein database search, using Smith-Waterman algorithm

Run on: Fri Feb 4 18:08:02 2000; MasPar time 3.55 Seconds
71.844 Million cell updates/sec

Tabular output not generated.

Title: >US-09-150-813-73
Description: (1-12) from US09150813.1.pap
Perfect Score: 86
Sequence: 1 KACLNPASPMVK 12
Scoring table: PAM 150
Gap 15

Searched: 170751 seqs, 21266608 residues

Post-processing: Minimum Match 0%
Listing first 45 summaries

Database: a-geneseq35

1:part1 2:part2 3:part3 4:part4 5:part5 6:part6 7:part7
8:part8 9:part9 10:part10 11:part11 12:part12 13:part13
14:part14 15:part15 16:part16 17:part17 18:part18
19:part19 20:part20 21:part21 22:part22 23:part23
24:part24 25:part25 26:part26 27:part27 28:part28
29:part29 30:part30 31:part31 32:part32 33:part33
34:part34 35:part35 36:part36 37:part37 38:part38
39:part39

Statistics: Mean 16.909; Variance 49.053; scale 0.345

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match % | Length | ID | Description | Pred. No. |
|------------|-------|---------------|--------|----|-----------------------|-----------|
| 1 | 86 | 100.0 | 73 | 39 | human gro-beta polype | 3.85e-03 |
| 2 | 86 | 100.0 | 73 | 25 | Human chemokine gro b | 3.85e-03 |
| 3 | 86 | 100.0 | 73 | 12 | Human gro-beta chemok | 3.85e-03 |
| 4 | 86 | 100.0 | 73 | 7 | MIP-2alpha | 3.85e-03 |
| 5 | 86 | 100.0 | 73 | 24 | Human chemokine gro b | 3.85e-03 |
| 6 | 86 | 100.0 | 102 | 13 | Gro-beta/MIP-2-alpha | 3.85e-03 |
| 7 | 86 | 100.0 | 107 | 4 | Human macrophage infl | 3.85e-03 |
| 8 | 86 | 100.0 | 107 | 4 | Human Gro beta cytol | 3.85e-03 |
| 9 | 86 | 100.0 | 107 | 4 | Human macrophage infl | 3.85e-03 |
| 10 | 79 | 91.9 | 73 | 39 | Human mature gro-gamm | 2.90e-02 |
| 11 | 79 | 91.9 | 73 | 23 | Chimeric interleukin- | 2.90e-02 |
| 12 | 79 | 91.9 | 73 | 12 | Human gro-gamma chemo | 2.90e-02 |
| 13 | 79 | 91.9 | 73 | 24 | Human chemokine gro g | 2.90e-02 |
| 14 | 79 | 91.9 | 73 | 25 | Human chemokine gro g | 2.90e-02 |
| 15 | 79 | 91.9 | 73 | 17 | Protein used to gener | 2.90e-02 |
| 16 | 79 | 91.9 | 73 | 7 | MIP-2beta | 2.90e-02 |

| | | | | | | | |
|----|----|------|-----|----|--------|------------------------|----------|
| 17 | 79 | 91.9 | 106 | 4 | R23035 | Human Gro gamma cyto | 2.90e-02 |
| 18 | 79 | 91.9 | 107 | 4 | R20530 | Human macrophage infl | 2.90e-02 |
| 19 | 79 | 91.9 | 107 | 13 | R70794 | Gro-gamma/MIP-2-beta | 2.90e-02 |
| 20 | 79 | 91.9 | 107 | 4 | R20590 | Human macrophage infl | 2.90e-02 |
| 21 | 77 | 89.5 | 70 | 20 | R99809 | Chemokine-like protei | 5.13e-02 |
| 22 | 77 | 89.5 | 73 | 25 | W18024 | Human chemokine gro a | 5.13e-02 |
| 23 | 77 | 89.5 | 73 | 39 | W81498 | Human mature gro-alpha | 5.13e-02 |
| 24 | 77 | 89.5 | 73 | 12 | R66698 | Human gro-alpha chemo | 5.13e-02 |
| 25 | 77 | 89.5 | 73 | 24 | W17670 | Human chemokine gro a | 5.13e-02 |
| 26 | 77 | 89.5 | 101 | 20 | R92318 | Chemokine-like protei | 5.13e-02 |
| 27 | 77 | 89.5 | 107 | 13 | R70792 | Melanoma growth stimu | 5.13e-02 |
| 28 | 70 | 81.4 | 11 | 20 | R99808 | Active domain from me | 3.69e-01 |
| 29 | 66 | 76.7 | 24 | 11 | R58627 | Putative glycan bindi | 1.12e+00 |
| 30 | 66 | 76.7 | 24 | 35 | W70292 | GRO alpha | 1.12e+00 |
| 31 | 66 | 76.7 | 72 | 23 | W12436 | Chimeric interleukin- | 1.94e+00 |
| 32 | 64 | 74.4 | 72 | 3 | R14077 | Cytokine and neutroph | 5.72e+00 |
| 33 | 60 | 69.8 | 100 | 4 | R20528 | Murine macrophage inf | 5.72e+00 |
| 34 | 60 | 69.8 | 100 | 4 | R20588 | Murine macrophage inf | 5.72e+00 |
| 35 | 60 | 69.8 | 100 | 26 | R50790 | Macrophage derived in | 5.72e+00 |
| 36 | 60 | 69.8 | 113 | 32 | R50883 | Amino acid sequence o | 5.72e+00 |
| 37 | 59 | 68.6 | 32 | 13 | R70805 | Heparanase C-terminal | 7.48e+00 |
| 38 | 59 | 68.6 | 70 | 7 | R36775 | NAP-2 | 7.48e+00 |
| 39 | 59 | 68.6 | 75 | 16 | R86011 | Synthetic NAP-2V | 7.48e+00 |
| 40 | 59 | 68.6 | 85 | 13 | R70786 | CTAP-III heparanase | 7.48e+00 |
| 41 | 59 | 68.6 | 85 | 3 | P50526 | Sequence encoded by s | 7.48e+00 |
| 42 | 59 | 68.6 | 128 | 3 | R13520 | Leukocyte derived gro | 7.48e+00 |
| 43 | 59 | 68.6 | 128 | 3 | R13519 | Leukocyte derived gro | 7.48e+00 |
| 44 | 59 | 68.6 | 128 | 1 | R05767 | Precursor of platelet | 7.48e+00 |
| 45 | 59 | 68.6 | 135 | 2 | R07984 | CTAP(Leu21)/Lamb1-40 | 7.48e+00 |

ALIGNMENTS

RESULT 1
ID W81499 standard; Protein; 73 AA.
AC W81499;
DT 01-MAR-1999 (first entry)
DE human gro-beta polypeptide used to treat sepsis.
KW Gro-beta; chemokine; human; sepsis; septic shock; therapy.
OS Mus sp.
FH Key Location/Qualifiers
FT Protein 5..73 /note= "claimed fragment"
FN W09848828-A1.
PD 05-NOV-1998.
PE 29-APR-1998; U08742.
PR 29-APR-1997; US-846966.
PA (SMIK) SMITHKLINE BEECHAM CORP.
PI Demarsh PL, Johanson KO;
DR WPI; 99-024031/02.
PT Treating and preventing sepsis in animals - by using two modified
PT gro b chemokines in conjunction with an anti-infective agent
PS Example 1; Page 18; 26pp; English.
CC This is the amino acid sequence of the human chemokine gro-beta
CC mature polypeptide. The invention relates to a method of
CC preventing and treating sepsis using chemokines selected from
CC mature or modified murine KC (see W81497), or human gro-alpha (see
CC W81498), gro-beta or gro-gamma (see W81499). A claimed method uses
CC a dimeric chemokine consisting of 2 covalently linked modified
CC gro-beta proteins (amino acids 5-73 of the mature polypeptide)
CC in which the proteins are linked by 2 intermolecular disulphide
CC bonds between C5-C31 and C7-C47. Further claimed is administering
CC the chemokine in conjunction with an anti-infective agent. The
CC chemokines described in this invention are required to treat and
CC prevent sepsis since antimicrobial agents alone have failed to
CC abrogate septic mortality.
SQ Sequence 73 AA;

Query Match 100.0%; Score 86; DB 39; Length 73;
Best Local Similarity 100.0%; Pred. No. 3.85e-03;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Db 49 kacinpaspvkv 60

QY 1 KACLNPASPMVK 12
|||||

RESULT 2

ID W18025 standard; protein; 73 AA.
AC W18025;
DT 30-JAN-1998 (first entry)
DE Human chemokine gro beta.
KW Sepsis; septic shock; therapy; gro beta; chemokine; human.
OS Homo sapiens.
FH Key Location/Qualifiers
FT Protein 5..73
FT /note= "preferred modified fragment of KC
FT (Claim 2)"
PN W09719173-AL.
PD 29-MAY-1997.
PF 20-NOV-1996; U18616.
PR 21-NOV-1995; US-007425.
PI (SMIK) SMITHKLINE BEECHAM CORP.
PI DeMarsh PL, Johanson KO;
DR WPI; 97-29811/27.
PT Use of chemokine(s) such as KC and gro-alpha - to treat or prevent
PT sepsis, particularly septic shock
PS Claim 1; Page 19; 28pp; English.
CC A claimed method of treating or preventing sepsis comprises
CC administering to an animal an effective amount of a chemokine
CC selected from mature murine KC (see W18023), human gro alpha (see
CC W18024), human gro beta (W18025) and human gro gamma (see
CC W18026), modified fragments of these chemokines and multimeric
CC proteins comprising an association of two chemokine proteins.
CC Sepsis can occur in hospitalised patients, and a consequence of
CC bacterial sepsis is septic shock. The method of the invention
CC provides a treatment for sepsis, particularly septic shock, which
CC is a major cause of death in intensive care units. Septic shock
CC syndrome apparently has intractable resistance to the effects of
CC a variety of highly potent antimicrobial agents. Survival is
CC increased by treatment with the chemokines, both prophylactically
CC and after infection.
SQ Sequence 73 AA;

Query Match 100.0%; Score 86; DB 25; Length 73;
Best Local Similarity 100.0%; Pred. No. 3.85e-03;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 49 kaclnpasmvk 60
|||||

RESULT 3

ID R66699 standard; protein; 73 AA.
AC R66699;
DT 19-JUL-1995 (first entry)
DE Human gro-beta chemokine.
KW Gro-alpha protein; chemokine; inflammation; antiinflammatory;
KW hematopoietic synergistic factor; HSF; hematopoietic precursor;
KW bone marrow; intercrine; desamino gro-beta; truncation.
OS Homo sapiens.
FH Key Location/Qualifiers
FT Protein 5..73
FT /note= "desamino truncated gro-beta, claim 6,
FT page 68"
PN W09429341-A.
PD 22-DEC-1994.
PF 03-JUN-1994; U06264.
PR 08-JUN-1993; US-073800.
PI (SMIK) SMITHKLINE BEECHAM CORP.
PI Balcarek JM, Bhatnagar P, King AG, Pelus LM;
DR WPI; 95-036402/05.
PT New truncated chemokine with increased biological activity - and
PT related multimers, nucleic acid, antibodies etc., for treating
PT inflammation, stimulating growth of bone marrow etc., also

PT peptide(s) for inducing haematopoietic synergistic factor.
PS Disclosure; Page 51-52; 89pp; English.
CC Truncated, desamino chemokine comprising amino acids 5-73 of
CC human mature gro-beta (full sequence given in R66699)
CC shows enhanced biological activity when compared to the mature
CC protein, and has been used to prepare multimeric, modified
CC chemokines.
SQ Sequence 73 AA;

Query Match 100.0%; Score 86; DB 12; Length 73;
Best Local Similarity 100.0%; Pred. No. 3.85e-03;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 49 kaclnpasmvk 60
|||||

RESULT 4

ID R36771 standard; protein; 73 AA.
AC R36771;
DT 29-SEP-1993 (first entry)
DE MIP-2alpha.
KW Macrophage inflammatory protein; megakaryocytopoiesis; MIP-1; MIP-2;
KW thrombocythemia; reactive thrombocytosis; stroke; emboli; platelet;
KW myeloproliferative disorder.
OS Homo sapiens.
PN W09309799-A.
PD 27-MAY-1993.
PF 13-NOV-1992; U09671.
PR 15-NOV-1991; US-792988.
PI (UYPE-) UNIV PENNSYLVANIA.
PI Gewirtz AM;
DR WPI; 93-182239/22.
PT Suppression of megakaryocytopoiesis - by administration of
PT macrophage inflammatory protein-1 or -2
PS Disclosure; Page 18; 26pp; English.
CC A claimed method for reducing the no. of circulating platelets in the
CC bloodstream of a mammal comprises admin. of MIP-1 and/or MIP-2 or
CC their analogues to induce such a reduction. The MIP-1, MIP-2 or
CC analogue may be operatively linked to a carrier. The MIPs can be
CC used to inhibit megakaryocytopoiesis to effect in vivo reduction of
CC platelet nos. Megakaryocytopoiesis is used to treat disorders with excessively
CC high platelet counts such as thrombocytosis, stroke, pulmonary emboli
CC and myeloproliferative disorders.
SQ Sequence 73 AA;

Query Match 100.0%; Score 86; DB 7; Length 73;
Best Local Similarity 100.0%; Pred. No. 3.85e-03;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 49 kaclnpasmvk 60
|||||

RESULT 5

ID W17671 standard; protein; 73 AA.
AC W17671;
DT 25-NOV-1997 (first entry)
DE Human chemokine gro beta.
KW Gro beta; chemokine; intercrine; myelosuppression;
KW immunosuppression; haematopoietic cell; infection; cancer;
KW aplastic anaemia; autoimmune disease; stem cell transplant;
KW therapy.
OS Homo sapiens.
FH Key Location/Qualifiers
FT Protein 5..73
FT /note= "preferred polypeptide (Claim 2)"
PN W09715595-AL.
PD 01-MAY-1997.
PF 24-OCT-1996; U17074.
PR 24-OCT-1995; US-547262.

PA (SMIK) SMITHKLINE BEECHAM CORP.
 PI King AG, Pelus LM;
 DR WPI; 97-258957/23.
 PT Use of specific chemokine(s) for stem cell mobilisation - useful for
 PT treating myelosuppression or any condition involving
 PT immunosuppression or low levels of haematopoietic cells
 PS Claim 1; Page 21; 31pp; English.
 CC This polypeptide sequence comprises human gro beta. Use of
 CC mammalian chemokines selected from gro alpha (W17670), gro beta,
 CC gro gamma (W17672) or KC (W17669) for mobilising haematopoietic
 CC cells is claimed. The chemokines, optionally used together with a
 CC growth factor or other haematopoietic regulator, are used to treat
 CC myelosuppression or any condition that involves immunosuppression
 CC or low levels of haematopoietic cells, e.g. infection, cancer,
 CC myelopoietic dysfunction, haematopoietic disorders, aplastic anaemia
 CC or autoimmune disease, or low production/differentiation of
 CC haematopoietic or bone marrow cells. A claimed application is in
 CC peripheral blood stem cell transplants in patients being treated by
 CC chemotherapy. Chemokines having an N-terminal deletion are more
 CC active, e.g. by 2 orders of magnitude, than the full-length protein.
 CC When used with a colony stimulating factor (CSF), a synergistic
 CC effect is achieved and the dose, and side-effects, of CSF can be
 CC reduced. Compared with conventional methods of stem cell transplants,
 CC use of mammalian chemokines provides a more rapid release of
 CC peripheral blood mononuclear cells and/or platelets, reducing risk of
 CC infection and allowing use of higher doses of chemotherapeutic
 CC agents.
 SQ Sequence 73 AA;

Query Match 100.0%; Score 86; DB 24; Length 73;
 Best Local Similarity 100.0%; Pred. No. 3.85e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 49 kaclnpaspvmk 60
 QY 1 KACLNPAASPVMK 12

RESULT 6
 ID R70793 standard; Protein; 102 AA.
 AC R70793;
 DT 29-AUG-1995 (first entry)
 DE Gro-beta/MIP-2-alpha.
 KW Macrophage inflammatory protein 2-alpha; gro-beta/MIP-2-alpha;
 KW heparanase; heparin; heparan sulfate; arthritis; restenosis;
 KW cancer; wound healing.
 OS Homo sapiens.
 PN W09504158-A.
 PD 09-FEB-1995.
 PF 26-JUL-1994; U08207.
 PR 29-JUL-1993; US-099866.
 PR 13-OCT-1993; US-136117.
 PA (UPJO) UPJOHN CO.
 PI Hoogwerf AJ, Ledbetter SR;
 DR WPI; 95-082239/11.
 DR N-PSDB; Q85363.
 PT Screening for cpds. with anti-heparanase activity - by detecting
 PT inhibition of heparin or heparan sulphate degradation,
 PT potentially useful for treating arthritis, restenosis, cancer.
 PS Claim 12; Page 40; 60pp; English.
 CC Purified heparanases, prepared under reducing conditions and
 CC activated with transglutaminase, are given in R70786-804. Most
 CC are prepared by reverse transcription of mRNA from activated human
 CC leukocytes, then cloning of the cDNA into pVL1392 baculovirus
 CC vector, and expression in Sf9 cells in the presence of reduced
 CC glutathione and dithiothreitol.
 SQ Sequence 102 AA;

Query Match 100.0%; Score 86; DB 13; Length 102;
 Best Local Similarity 100.0%; Pred. No. 3.85e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 83 kaclnpaspvmk 94

QY 1 KACLNPAASPVMK 12

RESULT 7
 ID R20529 standard; Protein; 107 AA.
 AC R20529;
 DT 23-APR-1992 (first entry)
 DE Human macrophage inflammatory protein (MIP) 2 alpha.
 KW Inducible; secretory; inflammatory response; cytokine.
 OS Homo sapiens.
 FH Key Location/Qualifiers
 FT Peptide 1..34
 FT /label= signal
 PN W09200326-A.
 PN W09200327-A.
 PD 09-JAN-1992.
 PF 24-JUN-1991; U04482.
 PR 22-JUN-1990; US-541897.
 PR 19-JUN-1991; US-715194.
 PA (CHIR-) CHIRON CORP.
 PI Tekamp-Olson P, Gallegos CA;
 DR WPI; 92-041519/05.
 DR N-PSDB; Q20729.
 PT Human macrophage inflammatory protein 2-alpha - useful in
 PT treating infections, cancer, myelopoietic dysfunction and auto:
 PT immune diseases
 PS Disclosure; Fig 2; 68pp; English.
 CC The sequence was deduced from the DNA sequence obtd. by screening
 CC the U937 cDNA library prepd. from poly-A+ RNA from PMA treated and
 CC LPS stimulated cells, using as probe a fragment isolated from the
 CC mmp-2 cDNA (see Q20728) encoding most of the mature mmp-2 amino
 CC acid sequence. Two classes of human cDNA homologous to mmp-2 were
 CC found designated alpha and beta. The alpha form reproduced here
 CC is claimed in W09200327; the beta form (Q20530) is claimed in
 CC W09200326. The alpha form is the more abundant of the two. The
 CC genes can be used to produce recombinant MIP proteins for use in
 CC wound healing, to modulate myelopoiesis and to induce adjuvant
 CC activity.
 CC See also R20588, R20590 and R20528-30.
 SQ Sequence 107 AA;

Query Match 100.0%; Score 86; DB 4; Length 107;
 Best Local Similarity 100.0%; Pred. No. 3.85e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 83 kaclnpaspvmk 94
 QY 1 KACLNPAASPVMK 12

RESULT 8
 ID R23034 standard; Protein; 107 AA.
 AC R23034;
 DT 26-OCT-1992 (first entry)
 DE Human Gro beta cytokine.
 KW Cytokine; inflammatory response; MAD-2; cancer diagnosis;
 KW colonic epithelial tumour cell.
 OS Homo sapiens.
 FH Key Location/Qualifiers
 FT Peptide 1..35
 FT /label= leader
 FT /note= "putative"
 FT 36..107
 FT /label= Gro_beta
 PN W09206196-A.
 PD 16-APR-1992.
 PF 24-SEP-1991; U06936.
 PR 28-SEP-1990; US-590223.
 PA (CETU) CETUS CORP.
 PA (UYNC-) UNIV OF NORTH CAROLINA.
 PI Haskill JS, Nitecki DE, Ralph P;
 DR WPI; 92-150882/18.

N-PSDB: Q24266.
 DE Gro beta and Gro gamma inflammatory cytokine(s) - for use in
 PT diagnosing colon cancer
 PS Claim 12; Fig 1B; 46pp; English.
 CC The cDNA clone coding for inflammatory cytokine Gro-beta was
 CC isolated from a mezerin- and calcium ionophore-stimulated leukocyte
 CC cDNA library. The amino acid sequence of Gro beta was deduced from
 CC the nucleotide sequence. The level of Gro beta in inflammatory
 CC response cells can be used as an indication of a test substance's
 CC inflammatory activity and to diagnose colon cancer.
 CC See also Q24267.
 SQ Sequence 107 AA;

Query Match 100.0%; Score 86; DB 4; Length 107;
 Best Local Similarity 100.0%; Pred. No. 3.85e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 83 kacInpaspvmv 94
 |||||
 QY 1 KACLNPA SPVMV 12

RESULT 9

ID R20589 standard; Protein; 107 AA.
 AC R20589;
 DT 23-APR-1992 (first entry)
 DE Human macrophage inflammatory protein (MIP) 2 alpha.
 KW Inducible; secretory; inflammatory response; cytokine.
 OS Homo sapiens.
 FH Key Location/Qualifiers
 FT peptide 1..34
 FT /label= signal

PN WO9200326-A.
 PN WO9200327-A.
 PD 09-JAN-1992.
 PF 24-JUN-1991; U04478.
 PR 22-JUN-1990; US-541898.
 PR 19-JUN-1991; US-715195.
 PA (CHIR-) CHIRON CORP.
 PI Tekamp-Olson P, Gallegos CA;
 DR WPI; 92-041518/05.
 DR N-PSDB; Q20613.

PT Human macrophage inflammatory protein 2-alpha - useful in
 PT treating infections, cancer, myeloepoietic dysfunction and auto:
 PT immune diseases
 PS Disclosure; Fig 2; 68pp; English.
 CC The sequence was deduced from the DNA sequence obtd. by screening
 CC the U937 cDNA library prepd. from poly-A+ RNA from PMA treated and
 CC LPS stimulated cells, using as probe a fragment isolated from the
 CC mMIP-2 cDNA (see Q20612) encoding most of the mature mMIP-2 amino
 CC acid sequence. Two classes of human cDNA homologous to mMIP-2 were
 CC found designated alpha and beta. The alpha form reproduced here
 CC is claimed in WO9200327; the beta form (Q20614) is claimed in
 CC WO9200326. The alpha form is the more abundant of the two. The
 CC genes can be used to produce recombinant MIP proteins for use in
 CC wound healing, to modulate myelopoiesis and to induce adjuvant
 CC activity.
 CC See also R20588, R20590 and R20528-30.
 SQ Sequence 107 AA;

Query Match 100.0%; Score 86; DB 4; Length 107;
 Best Local Similarity 100.0%; Pred. No. 3.85e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 83 kacInpaspvmv 94
 |||||
 QY 1 KACLNPA SPVMV 12

RESULT 10

ID W81500 standard; Protein; 73 AA.
 AC W81500;
 DT 01-MAR-1999 (first entry)

DE Human mature gro-gamma polypeptide used to treat sepsis.
 KW Gro-gamma; chemokine; human; sepsis; septic shock; therapy.
 OS Homo sapiens.
 FH Key Location/Qualifiers
 FT Protein 5..73
 FT /note= "modified fragment, preferred for use in
 FT method of the invention"
 PN WO9848828-A1.
 PD 05-NOV-1998.
 PF 29-APR-1998; U08742.
 PR 29-APR-1997; US-846966.
 PR (SMIK) SMITHKLINE BEECHAM CORP.
 PA Demarsh PL, Johanson KO;
 PI WPI; 99-024031/02.
 DR Treating and preventing sepsis in animals - by using two modified
 PT gro b chemokines in conjunction with an anti-infective agent
 PS Example 1; Page 19; 26pp; English.
 CC This is the amino acid sequence of the human gro-gamma chemokine
 CC mature polypeptide. The invention relates to a method of preventing
 CC and treating sepsis using chemokines selected from mature or
 CC modified murine KC (see W81497), or human gro-alpha (see W81498),
 CC gro-beta (see W81499) or gro-gamma (see W81499). The modified
 CC gro-gamma comprises amino acids 5-73 of the mature polypeptide. A
 CC claimed method uses a dimer composed of 2 modified gro-beta
 CC chemokines. Further claimed is administering the chemokine in
 CC conjunction with an anti-infective agent. The chemokines described
 CC in this invention are required to treat and prevent sepsis since
 CC antimicrobial agents alone have failed to abrogate septic mortality.
 SQ Sequence 73 AA;

Query Match 91.9%; Score 79; DB 39; Length 73;
 Best Local Similarity 100.0%; Pred. No. 2.90e-02;
 Matches 11; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 49 kacInpaspvmv 59
 |||||
 QY 1 KACLNPA SPVMV 11

RESULT 11
 ID W12434 standard; peptide; 73 AA.
 AC W12434;

DT 08-OCT-1997 (first entry)
 DE Chimeric interleukin-8 receptor binding polypeptide G18132G.
 KW Chimeric; IL-8; receptor mediated biological response; inhibition;
 KW signal transduction; chemokine; human.
 OS Chimeric-Homo sapiens.
 FH Key Location/Qualifiers
 FT region 1..18
 FT /note= "Amino acids 1 to 18 of SEQ ID NO:2 in the
 FT specification from GRO-gamma"
 FT region 19..33
 FT /note= "Amino acids 18 to 32 of SEQ ID NO:1 in the
 FT specification from human interleukin-8"
 FT region 34..73
 FT /note= "Amino acids 34 to 73 of SEQ ID NO:2 in the
 FT specification from GRO-gamma"

WO9700893-A1.

PN 09-JAN-1997.
 PD 18-JUN-1996; U10536.
 PR 05-APR-1996; US-628893.
 PR 20-JUN-1995; US-493252.
 PR 27-JUN-1995; US-000698.

PA (CHIR) CHIRON CORP.
 PI Blaney J, Shyamala V, Siani M, Tekamp-Olson P, Wernette-Hammond ME;
 DR WPI; 97-087324/08.
 PT New chimeric interleukin-8 polypeptide(s) - used for modulating IL-8
 PT receptor-mediated biological responses, e.g. inhibiting signal
 PT transduction

PS Claim 26; Page -; 38pp; English.
 CC The present sequence represents a specifically claimed chimeric
 CC polypeptide G18132G derived from human interleukin-8 (IL-8) and
 CC GRO-gamma. This polypeptide and similar examples of chimeric

CC chemokines (I46G53I and I18G46I53G) also derived from human IL-8
 CC and GRO-gamma, exhibit a chemokine protein structure capable
 CC of IL8R1 or IL8R2 binding. They can be used for modulating IL8
 CC receptor-mediated biological responses. In particular, they can be
 CC used for inhibiting IL8 receptor signal transduction.
 CC N.B. The present sequence is not shown in the specification but is
 CC derived from SEQ ID NO:1 and 2, see features table.
 SQ Sequence 73 AA;

Query Match 91.9%; Score 79; DB 23; Length 73;
 Best Local Similarity 100.0%; Pred. No. 2.90e-02;
 Matches 11; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 49 kacInpaspvmv 59
 |||||
 QY 1 KACLNPASPMV 11

RESULT 12
 ID R66700 standard; protein; 73 AA.
 AC R66700;
 DT 19-JUL-1995 (first entry)
 DE Human gro-gamma chemokine.
 KW Gro-alpha protein; chemokine; inflammation; anti-inflammatory;
 KW hematopoietic synergistic factor; HSF; hematopoietic precursor;
 KW bone marrow; intercrine; desamino gro-gamma; truncation.
 OS Homo sapiens.
 FH Key Location/Qualifiers
 FT Protein 5..73
 FT /note= "desamino truncated gro-gamma, claim 10,
 FT page 69"
 PN WO9429341-A.
 PD 22-DEC-1994.
 PF 03-JUN-1994; U06264.
 PR 08-JUN-1993; US-073800.
 PA (SMIK) SMITHKLINE BEECHAM CORP.
 PI Balcarek JM, Bhatnagar P, King AG, Pelus LM;
 DR WPI; 95-036402/05.
 PT New truncated chemokine with increased biological activity - and
 PT related multimers, nucleic acid, antibodies etc. for treating
 PT inflammation, stimulating growth of bone marrow etc., also
 PT peptide(s) for inducing hematopoietic synergistic factor.
 PS Disclosure; Page 52; 89pp; English.
 CC Truncated, desamino chemokine comprising amino acids 5-73 of
 CC human mature gro-gamma (full sequence given in R66700)
 CC shows enhanced biological activity when compared to the mature
 CC protein, and has been used to prepare multimeric, modified
 CC chemokines.
 SQ Sequence 73 AA;

Query Match 91.9%; Score 79; DB 12; Length 73;
 Best Local Similarity 100.0%; Pred. No. 2.90e-02;
 Matches 11; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 49 kacInpaspvmv 59
 |||||
 QY 1 KACLNPASPMV 11

RESULT 13
 ID W17672 standard; Protein; 73 AA.
 AC W17672;
 DT 25-NOV-1997 (first entry)
 DE Human chemokine gro gamma.
 KW Gro gamma; chemokine; intercrine; myelosuppression;
 KW immunosuppression; hematopoietic cell; infection; cancer;
 KW aplastic anaemia; autoimmune disease; stem cell transplant;
 KW therapy.
 OS Homo sapiens.
 FH Key Location/Qualifiers
 FT Protein 5..73
 FT /note= "preferred polypeptide (Claim 4)"
 PN WO9715595-A1.

PD 01-MAY-1997.
 PF 24-OCT-1996; U17074.
 PR 24-OCT-1995; US-547262.
 PA (SMIK) SMITHKLINE BEECHAM CORP.
 PI King AG, Pelus LM;
 DR WPI; 97-258957/23.
 PT Use of specific chemokine(s) for stem cell mobilisation - useful for
 PT treating myelosuppression or any condition involving
 PT immunosuppression or low levels of haematopoietic cells
 PS Claim 1; Page 21; 31pp; English.
 CC This polypeptide sequence comprises human gro gamma. Use of
 CC mammalian chemokines selected from gro alpha (W17670), gro beta
 CC (W17671), gro gamma or KC (W17669) for mobilising haematopoietic
 CC cells is claimed. The chemokines, optionally used together with a
 CC growth factor or other haematopoietic regulator, are used to treat
 CC myelosuppression or any condition that involves immunosuppression
 CC or low levels of haematopoietic cells, e.g. infection, cancer,
 CC myeloproliferative dysfunction, haematopoietic disorders, aplastic anaemia
 CC or autoimmune disease, or low production/differentiation of
 CC haematopoietic or bone marrow cells. A claimed application is in
 CC peripheral blood stem cell transplants in patients being treated by
 CC chemotherapy. Chemokines having an N-terminal deletion are more
 CC active, e.g. by 2 orders of magnitude, than the full-length protein.
 CC When used with a colony stimulating factor (CSF), a synergistic
 CC effect is achieved and the dose, and side-effects, of CSF can be
 CC reduced. Compared with conventional methods of stem cell transplants,
 CC use of mammalian chemokines provides a more rapid release of
 CC peripheral blood mononuclear cells and/or platelets, reducing risk of
 CC infection and allowing use of higher doses of chemotherapeutic
 CC agents.
 SQ Sequence 73 AA;

Query Match 91.9%; Score 79; DB 24; Length 73;
 Best Local Similarity 100.0%; Pred. No. 2.90e-02;
 Matches 11; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 49 kacInpaspvmv 59
 |||||
 QY 1 KACLNPASPMV 11

RESULT 14
 ID W18026 standard; protein; 73 AA.
 AC W18026;
 DT 30-JAN-1998 (first entry)
 DE Human chemokine gro gamma.
 KW Sepsis; septic shock; therapy; gro gamma; chemokine; human.
 OS Homo sapiens.
 FH Key Location/Qualifiers
 FT Protein 5..73
 FT /note= "preferred modified fragment of KC
 FT (Claim 5)"
 PN WO9719173-A1.
 PD 29-MAY-1997.
 PF 20-NOV-1996; U18616.
 PR 21-NOV-1995; US-007425.
 PA (SMIK) SMITHKLINE BEECHAM CORP.
 PI DeMarsh PL, Johanson KO;
 DR WPI; 97-298111/27.
 PT Use of chemokine(s) such as KC and gro-alpha - to treat or prevent
 PT sepsis, particularly septic shock
 PS Claim 1; Page 19-20; 28pp; English.
 CC A claimed method of treating or preventing sepsis comprises
 CC administering to an animal an effective amount of a chemokine
 CC selected from mature murine KC (see W18023), human gro alpha (see
 CC W18024), human gro beta (see W18025) and human gro gamma (W18026),
 CC modified fragments of these chemokines and multimeric proteins
 CC comprising an association of two chemokine proteins. Sepsis can
 CC occur in hospitalised patients, and a consequence of bacterial
 CC sepsis is septic shock. The method of the invention provides a
 CC treatment for sepsis, particularly septic shock, which is a major
 CC cause of death in intensive care units. Septic shock syndrome
 CC apparently has intractable resistance to the effects of a variety

W P S R E H (TM)

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MPSrch_pp protein - protein database search, using Smith-Waterman algorithm

Run on: Fri Feb 4 18:15:07 2000; MasPar time 2.54 Seconds
Tabular output not generated. 133.743 Million cell updates/sec

Title: >US-09-150-813-74
Description: (1-12) from US09150813.pep
Perfect Score: 86
Sequence: 1 KACLNPA5PMVQ 12

Scoring table: PAM 150
Gap 15

Searched: 77977 seqs, 28268293 residues

Post-processing: Minimum Match 0%
Listing first 45 summaries

Database: swiss-prot37
1:swissprot

Statistics: Mean 23.866; Variance 26.272; scale 0.908

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match | Length | ID | Description | Pred. No. |
|------------|-------|-------------|--------|----|-----------------------------------|-----------|
| 1 | 86 | 100.0 | 107 | 1 | MI2B_HUMAN MACROPHAGE INFLAMMATOR | 8.99e-10 |
| 2 | 79 | 91.9 | 107 | 1 | MI2A_HUMAN MACROPHAGE INFLAMMATOR | 9.26e-08 |
| 3 | 73 | 84.9 | 101 | 1 | GRO_CRIGR GROWTH REGULATED PROTE | 4.35e-06 |
| 4 | 71 | 82.6 | 96 | 1 | GRO_RAT GROWTH REGULATED PROTE | 1.52e-05 |
| 5 | 71 | 82.6 | 104 | 1 | GRO_CAVPO GROWTH REGULATED PROTE | 1.52e-05 |
| 6 | 70 | 81.4 | 107 | 1 | GRO_HUMAN GROWTH REGULATED PROTE | 2.84e-05 |
| 7 | 67 | 77.9 | 100 | 1 | MIP2_MOUSE MACROPHAGE INFLAMMATOR | 1.79e-04 |
| 8 | 66 | 76.7 | 98 | 1 | GRO_BOVIN GROWTH REGULATED PROTE | 3.27e-04 |
| 9 | 64 | 74.4 | 96 | 1 | GRO_MOUSE GROWTH REGULATED PROTE | 1.08e-03 |
| 10 | 64 | 74.4 | 104 | 1 | GROA_BOVIN GROWTH REGULATED PROTE | 1.08e-03 |
| 11 | 62 | 74.4 | 104 | 1 | GROB_BOVIN GROWTH REGULATED PROTE | 1.08e-03 |
| 12 | 62 | 72.1 | 100 | 1 | MIP2_RAT MACROPHAGE INFLAMMATOR | 3.51e-03 |
| 13 | 57 | 66.3 | 71 | 1 | GRO1_RABIT PERMEABILITY FACTOR 2 | 6.07e-02 |
| 14 | 57 | 66.3 | 1389 | 1 | RPOB_NEIME DNA-DIRECTED RNA POLYM | 6.07e-02 |
| 15 | 55 | 64.0 | 104 | 1 | GRO2_RABIT GROWTH REGULATED PROTE | 1.82e-01 |
| 16 | 53 | 61.6 | 591 | 1 | GAG_MMTVB GAG POLYPROTEIN [CONTA | 5.35e-01 |
| 17 | 53 | 61.6 | 591 | 1 | GAG_MMTVC GAG POLYPROTEIN [CONTA | 5.35e-01 |
| 18 | 53 | 61.6 | 609 | 1 | LKHA_RAT LEUKOTRIENE A-4 HYDROL | 5.35e-01 |
| 19 | 52 | 60.5 | 119 | 1 | PF4L_PIG PLATELET BASIC PROTEIN | 9.06e-01 |
| 20 | 52 | 60.5 | 128 | 1 | PF4L_HUMAN PLATELET BASIC PROTEIN | 9.06e-01 |
| 21 | 51 | 59.3 | 75 | 1 | GCP2_BOVIN GRANULOCYTE CHEMOTACTI | 1.52e+00 |
| 22 | 51 | 59.3 | 130 | 1 | LIX_RAT CYTOKINE LIX PRECURSOR | 1.52e+00 |
| 23 | 51 | 59.3 | 161 | 1 | TBA_LYPTI TUBULIN ALPHA CHAIN (F | 1.52e+00 |

| | | | | | | |
|----|----|------|-----|---|-----------------------------------|----------|
| 24 | 51 | 59.3 | 412 | 1 | TBA1_CHICK TUBULIN ALPHA-1 CHAIN | 1.52e+00 |
| 25 | 51 | 59.3 | 444 | 1 | TBA1_ONCKE TUBULIN ALPHA CHAIN | 1.52e+00 |
| 26 | 51 | 59.3 | 448 | 1 | TBA4_HUMAN TUBULIN ALPHA-4 CHAIN | 1.52e+00 |
| 27 | 51 | 59.3 | 449 | 1 | TBA_XENLA TUBULIN ALPHA CHAIN | 1.52e+00 |
| 28 | 51 | 59.3 | 449 | 1 | TBA2_DROME TUBULIN ALPHA-2 CHAIN | 1.52e+00 |
| 29 | 51 | 59.3 | 449 | 1 | TBA6_MOUSE TUBULIN ALPHA-6 CHAIN | 1.52e+00 |
| 30 | 51 | 59.3 | 450 | 1 | TBA_NOTVI TUBULIN ALPHA CHAIN | 1.52e+00 |
| 31 | 51 | 59.3 | 450 | 1 | TBA1_ONCMY TUBULIN ALPHA CHAIN | 1.52e+00 |
| 32 | 51 | 59.3 | 450 | 1 | TBA3_DROME TUBULIN ALPHA-3 CHAIN | 1.52e+00 |
| 33 | 51 | 59.3 | 450 | 1 | TBA1_DROME TUBULIN ALPHA-1 CHAIN | 1.52e+00 |
| 34 | 51 | 59.3 | 450 | 1 | TBA_BOMMO TUBULIN ALPHA CHAIN | 1.52e+00 |
| 35 | 51 | 59.3 | 450 | 1 | TBA3_MOUSE TUBULIN ALPHA-3 AND AL | 1.52e+00 |
| 36 | 51 | 59.3 | 451 | 1 | TBA1_HUMAN TUBULIN ALPHA-1 CHAIN | 1.52e+00 |
| 37 | 51 | 59.3 | 451 | 1 | TBA1_TORMA TUBULIN ALPHA CHAIN (A | 1.52e+00 |
| 38 | 51 | 59.3 | 451 | 1 | TBA1_MOUSE TUBULIN ALPHA-1 CHAIN | 1.52e+00 |
| 39 | 51 | 59.3 | 451 | 1 | TBA1_HOMAM TUBULIN ALPHA-1 CHAIN | 1.52e+00 |
| 40 | 51 | 59.3 | 451 | 1 | TBA1_CRIGR TUBULIN ALPHA-1 CHAIN | 1.52e+00 |
| 41 | 51 | 59.3 | 451 | 1 | TBA2_MOUSE TUBULIN ALPHA-2 CHAIN | 1.52e+00 |
| 42 | 51 | 59.3 | 451 | 1 | TBA1_FIG TUBULIN ALPHA CHAIN | 1.52e+00 |
| 43 | 51 | 59.3 | 452 | 1 | TBA1_PARLI TUBULIN ALPHA-1 CHAIN | 1.52e+00 |
| 44 | 51 | 59.3 | 452 | 1 | TBA2_PATVU TUBULIN ALPHA-2/ALPHA- | 1.52e+00 |
| 45 | 51 | 59.3 | 543 | 1 | CP1B_RAT CYTOCHROME P450 1B1 (E | 1.52e+00 |

ALIGNMENTS

| | |
|--------|--|
| RESULT | 1 |
| ID | MI2B_HUMAN |
| AC | PI9876; |
| DT | 01-FEB-1991 (REL. 17, CREATED) |
| DT | 01-FEB-1991 (REL. 17, LAST SEQUENCE UPDATE) |
| DT | 01-JUN-1994 (REL. 29, LAST ANNOTATION UPDATE) |
| DE | MACROPHAGE INFLAMMATORY PROTEIN-2-BETA PRECURSOR (MIP2-BETA) (GROWTH |
| DE | REGULATED PROTEIN GAMMA) (GRO-GAMMA). |
| GN | GRO3 OR GROG. |
| OS | HOMO SAPIENS (HUMAN) |
| OC | EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; |
| OC | PRIMATES; CATARRHINI; HOMINIDAE; HOMO. |
| RN | [1] |
| RP | SEQUENCE FROM N.A. |
| RC | TISSUE=HISTIOCYTIC LYMPHOMA; |
| RX | MEDLINE; 90354792 |
| RA | TEKAMP-OLSON P., GALLEGOS C., BAUER D., MCCLAIN J., SHERRY B., |
| RA | FABRE M., VAN DEVENTER S., CERAMI A.; |
| RT | "Cloning and characterization of cDNAs for murine macrophage |
| RT | inflammatory protein 2 and its human homologues."; |
| RL | J. EXP. MED. 172:911-919(1990). |
| RN | [2] |
| RP | SEQUENCE FROM N.A. |
| RX | MEDLINE; 91017578. |
| RA | HASKILL S., PEACE A., MORRIS J., SPORN S.A., ANISOWICZ A., LEE S.W., |
| RA | SMITH T., MARTIN G., RALPH P., SAGER R.; |
| RT | "Identification of three related human GRO genes encoding cytokine |
| RT | functions."; |
| RL | PROC. NATL. ACAD. SCI. U.S.A. 87:7732-7736(1990). |
| CC | -!- FUNCTION: MAY PLAY A ROLE IN INFLAMMATION AND EXERT ITS EFFECTS |
| CC | ON ENDOTHELIAL CELLS IN AN AUTOCRINE FASHION |
| CC | -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE |
| CC | C-X-C) (CHEMOKINE CXC). |

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EMBL; X53800; G34663; -
DR EMBL; X36821; G183633; -
DR PIR; B38290; B38290.
DR PIR; JH0282; JH0282.
DR MIM; 139111; -

DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
DR PFAM; PF00048; i18; 1.
DR HSSP; P09341; IMGs.
KW CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.
FT SIGNAL 1 34
FT CHAIN 35 107 MACROPHAGE INFLAMMATORY PROTEIN
FT 2-BETA.
FT DISULFID 43 69 BY SIMILARITY.
FT DISULFID 45 85 BY SIMILARITY.
FT CONFLICT 27 28 AA -> G (IN REF. 2).
SQ SEQUENCE 107 AA; 11342 MW; 6F2A63D2 CRC32;
Query Match 100.0%; Score 86; DB 1; Length 107;
Best Local Similarity 100.0%; Pred. No. 8.99e-10;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Db 83 KACLNPASPVMQ 94
QY 1 KACLNPASPVMQ 12
RESULT 2
ID M12A_HUMAN STANDARD; PRT; 107 AA.
AC P19875;
DT 01-FEB-1991 (REL. 17, CREATED)
DT 01-FEB-1991 (REL. 17, LAST SEQUENCE UPDATE)
DT 01-JUN-1994 (REL. 29, LAST ANNOTATION UPDATE)
DE MACROPHAGE INFLAMMATORY PROTEIN-2-ALPHA PRECURSOR (MIP2-ALPHA) (GROWTH
DE REGULATED PROTEIN BETA) (GRO-BETA).
GN GRO2 OR GROB OR MIP2A.
OS HOMO SAPIENS (HUMAN).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC PRIMATES; CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE-HISTOCYTIC LYMPHOMA;
RX MEDLINE; 90354792;
RA TEKAMP-OLSON P., GALLEGO C., BAUER D., MCCLAIN J., SHERRY B.,
RA FABRE M., VAN DEVENTER S., CERAMI A.;
RT "Cloning and characterization of cDNAs for murine macrophage
RT inflammatory protein 2 and its human homologues.";
RL J. EXP. MED. 172:911-919(1990).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE; 90377259.
RA TIDA N., GROTEENDORST G.R.;
RT "Cloning and sequencing of a new gro transcript from activated human
RT monocytes: expression in leukocytes and wound tissue.";
RL MOL. CELL. BIOL. 10:5596-5599(1990).
RN [3]
RP SEQUENCE FROM N.A.
RX MEDLINE; 91017578.
RA HASKILL S., PEACE A., MORRIS J., SPORN S.A., ANISOWICZ A., LEE S.W.,
RA SMITH T., MARTIN G., RALPH P., SAGER R.;
RT "Identification of three related human GRO genes encoding cytokine
RT functions.";
RL PROC. NATL. ACAD. SCI. U.S.A. 87:7732-7736(1990).
CC -!- FUNCTION: PRODUCED BY ACTIVATED MONOCYTES AND NEUTROPHILS AND
CC EXPRESSED AT SITES OF INFLAMMATION.
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
CC C-X-C) (CHEMOKINE CXC).
CC -----
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CC -----
CC EMBL; X53799; G34659; -.
CC EMBL; M36820; G183629; -.
CC EMBL; M57731; G183627; -.

DR PIR; JH0281; JH0281.
DR MIN; 139110; -.
DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
DR PFAM; PF00048; i18; 1.
DR HSSP; P09341; IMGs.
KW CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL.
FT SIGNAL 1 34
FT CHAIN 35 107 MACROPHAGE INFLAMMATORY PROTEIN
FT 2-ALPHA.
FT DISULFID 43 69 BY SIMILARITY.
FT DISULFID 45 85 BY SIMILARITY.
SQ SEQUENCE 107 AA; 11389 MW; 6E431A15 CRC32;
Query Match 91.9%; Score 79; DB 1; Length 107;
Best Local Similarity 100.0%; Pred. No. 9.26e-08;
Matches 11; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Db 83 KACLNPASPVMQ 93
QY 1 KACLNPASPVMQ 11
RESULT 3
ID GRO_CRIGR STANDARD; PRT; 101 AA.
AC P09340;
DT 01-MAR-1989 (REL. 10, CREATED)
DT 01-MAR-1989 (REL. 10, LAST SEQUENCE UPDATE)
DT 01-DEC-1992 (REL. 24, LAST ANNOTATION UPDATE)
DE GROWTH REGULATED PROTEIN PRECURSOR.
DE GROWTH REGULATED PROTEIN PRECURSOR.
GN GRO.
OS CRICETULUS GRISEUS (CHINESE HAMSTER).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC RODENTIA; SCIUROGNATHI; MURIDAE; CRICETINAE; CRICETULUS.
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE; 88041072.
RA ANISOWICZ A., BARDWELL L., SAGER R.;
RT "Constitutive overexpression of a growth-regulated gene in
RT transformed Chinese hamster and human cells.";
RL PROC. NATL. ACAD. SCI. U.S.A. 84:7188-7192(1987).
CC -!- FUNCTION: HAS CHEMOTACTIC ACTIVITY FOR NEUTROPHILS.
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
CC C-X-C) (CHEMOKINE CXC).
CC -----
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CC -----
CC EMBL; J03560; G304509; -.
DR PIR; B28414; B28414.
DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
DR PFAM; PF00048; i18; 1.
DR HSSP; P10889; 1M12.
KW CYTOKINE; GROWTH FACTOR; INFLAMMATORY RESPONSE; SIGNAL.
FT SIGNAL 1 28 POTENTIAL.
FT CHAIN 29 101 GRO PROTEIN.
FT DISULFID 37 63 BY SIMILARITY.
FT DISULFID 39 79 BY SIMILARITY.
SQ SEQUENCE 101 AA; 10893 MW; 3F83AD41 CRC32;
Query Match 84.9%; Score 73; DB 1; Length 101;
Best Local Similarity 81.8%; Pred. No. 4.35e-06;
Matches 9; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
Db 78 ACLNPASPVMQ 88
QY 2 ACLNPASPVMQ 12


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RESULT 4
ID GRO_RAT STANDARD: PRT; 96 AA.
AC P14095;
DT 01-JAN-1990 (REL. 13, CREATED)
DT 01-NOV-1995 (REL. 32, LAST SEQUENCE UPDATE)
DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
DE GROWTH REGULATED PROTEIN PRECURSOR (CYTOKINE-INDUCED NEUTROPHIL
DE CHEMOATTRACTANT) (CINC-1) (PLATELET-DERIVED GROWTH FACTOR-INDUCIBLE
DE PROTEIN KC).
GN GRO.
OS RATTUS NORVEGICUS (RAT).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; RATTUS.
RN [1]
RN SEQUENCE FROM N.A.
RX MEDLINE; 93246259.
RA KONISHI K., TANAKA Y., YAMAMOTO M., YOMOGIDA K., WATANABE K.,
RA TSURUFUJI S., FUJIOKA M.;
RT "Structure of the gene encoding rat neutrophil chemo-attractant Gro.";
RL GENE 126:285-286(1993).
RN [2]
RN SEQUENCE FROM N.A.
RX MEDLINE; 92246987.
RA HUANG S., PAULASKIS J., KOBZIK L.;
RT "Rat KC cDNA cloning and mRNA expression in lung macrophages and
RT fibroblasts.";
RL BIOCHEM. BIOPHYS. RES. COMMUN. 184:922-929(1992).
RN [3]
RN SEQUENCE OF 25-96.
RX MEDLINE; 90062049.
RA WATANABE K., KONISHI K., FUJIOKA M., KINOSHITA S., NAKAGAWA H.;
RT "The neutrophil chemoattractant produced by the rat kidney
RT epitheloid cell line NRK-52E is a protein related to the KC/gro
RT protein.";
RL J. BIOL. CHEM. 264:19559-19563(1989).
RN [4]
RN SEQUENCE OF 36-88 FROM N.A.
RC STRAIN-CD-1, TISSUE=LUNG;
RX MEDLINE; 93035653.
RA HUANG S., PAULASKIS J.D., GODLESKI J.J., KOBZIK L.;
RT "Expression of macrophage inflammatory protein-2 and KC mRNA in
RT pulmonary inflammation.";
RL AM. J. PATHOL. 141:981-988(1992).
RN [5]
RN SEQUENCE OF 25-56.
RC STRAIN=WISTAR;
RX MEDLINE; 96183056.
RA NAKAGAWA H., SHIOYA S., TAKANO K., SHIBATA F., KATO H.;
RT "Cytokine-induced neutrophil chemoattractant (CINC)-2 alpha, a novel
RT member of rat GRO/CINC, is a predominant chemokine produced by
RT lipopolysaccharide-stimulated rat macrophages in culture.";
RL BIOCHEM. BIOPHYS. RES. COMMUN. 220:945-948(1996).
RN [6]
RN STRUCTURE BY NMR.
RX MEDLINE; 95046335.
RA HANZAWA H., HARUYAMA H., WATANABE K., TSURUFUJI S.;
RT "The three dimensional structure of rat cytokine CINC/Gro in solution
RT by homonuclear 3D NMR.";
RL FEBS LETT. 354:207-212(1994).
RN [7]
RN STRUCTURE BY NMR.
RX MEDLINE; 97335927.
RA HANZAWA H., HARUYAMA H., KONISHI K., WATANABE K., TSURUFUJI S.;
RT "Subunit association and monomer structure of CINC/Gro revealed by
RT 1H-NMR.";
RL J. BIOCHEM. 121:835-841(1997).
RN [8]
RN STRUCTURE BY NMR.
RX MEDLINE; 98162936.
RA HANZAWA H., HARUYAMA H., KONISHI K., WATANABE K., TSURUFUJI S.;
RT "Solution structure of CINC/Gro investigated by heteronuclear NMR.";
RL J. BIOCHEM. 123:62-70(1998).
CC -!- FUNCTION: HAS CHEMOTACTIC ACTIVITY FOR NEUTROPHILS. CONTRIBUTES TO

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CC NEUTROPHIL ACTIVATION DURING INFLAMMATION.
CC -!- SUBUNIT: MONOMER AND HOMODIMER.
CC -!- TISSUE SPECIFICITY: AT LEAST EXPRESSED IN THE LUNG AND TRACHEA.
CC -!- INDUCTION: IN LUNG, BY LIPOPOLYSACCHARIDE OR INFLAMMATION.
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
CC C-X-C) (CHEMOKINE CXCL).
CC -----
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CC -----
CC EMBL; D11445; G220755; -
CC EMBL; D11444; G220753; -
CC EMBL; M8536; G206687; -
CC EMBL; S4585; E62498; -
CC PIR; A34481; A34481.
CC PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
CC PFAM; PF00048; I18; 1.
CC HSP; P09341; I18; 1.
CC CYTOKINE; GROWTH FACTOR; INFLAMMATORY RESPONSE; SIGNAL.
KW SIGNAL 1 24
FT CHAIN 25 96 GROWTH REGULATED PROTEIN.
FT DISULFID 33 59 BY SIMILARITY.
FT DISULFID 35 75 BY SIMILARITY.
SQ SEQUENCE 96 AA; 10249 MW; E49BIA5A CRC32;
Query Match 82.6%; Score 71; DB 1; Length 96;
Best Local Similarity 72.7%; Pred. No. 1.52e-05;
Matches 8; Conservative 2; Mismatches 1; Indels 0; Gaps 0;
Db 74 ACIDPEAPMVQ 84
QY 2 ACLNPASPMVQ 12
||||:||||
RESULT 5
ID GRO_CAVPO STANDARD: PRT; 104 AA.
AC Q5235;
DT 15-DEC-1998 (REL. 37, CREATED)
DT 15-DEC-1998 (REL. 37, LAST SEQUENCE UPDATE)
DT 15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)
DE GROWTH REGULATED PROTEIN PRECURSOR.
GN GRO.
OS CAVIA PORCELLUS (GUINEA PIG).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC RODENTIA; HYSTRICOGNATHI; CAVIADAE; CAVIA.
RN [1]
RN SEQUENCE FROM N.A.
RC STRAIN=STRAIN 2;
RA YOSHIMURA T., MODI W.S.;
RL SUBMITTED (JAN-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [2]
RN SEQUENCE FROM N.A.
RC STRAIN=HARTLEY WHITE; TISSUE=SPLEEN;
RA YOSHIMURA T., TAKEYA M., OGATA H., GILLITZER R.;
RL SUBMITTED (MAR-1998) TO EMBL/GENBANK/DBJ DATA BANKS.
CC -!- FUNCTION: HAS CHEMOTACTIC ACTIVITY FOR NEUTROPHILS.
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
CC C-X-C) (CHEMOKINE CXCL).
CC -----
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CC -----
CC EMBL; U95809; G2735489; -

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DR EMBL; U95810; G2735491; -.
DR EMBL; AF052004; G2981063; -.
DR EMBL; AF052005; G2981065; -.
DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
KW CYTOKINE; GROWTH FACTOR; INFLAMMATORY RESPONSE; SIGNAL.
FT SIGNAL 1 31 POTENTIAL.
FT CHAIN 32 104 GRO PROTEIN.
FT DISULFID 40 66 BY SIMILARITY.
FT DISULFID 42 82 BY SIMILARITY.
SQ SEQUENCE 104 AA; 11069 MW; 859F2A19 CRC32;

Query Match 82.6%; Score 71; DB 1; Length 104;
Best Local Similarity 72.7%; Pred. No. 1.52e-05;
Matches 8; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 81 ACLDPEAPMVQ 91
|||:|||||
QY 2 ACLNPASPMVQ 12

RESULT 6
ID GRO_HUMAN STANDARD; PRT; 107 AA.
AC P09341;
DT 01-MAR-1989 (REL. 10, CREATED)
DT 01-MAR-1989 (REL. 10, LAST SEQUENCE UPDATE)
DE 01-NOV-1997 (REL. 35, LAST ANNOTATION UPDATE)
DE GROWTH REGULATED PROTEIN PRECURSOR (MELANOMA GROWTH STIMULATORY
DE ACTIVITY) (MGSA) (NEUTROPHIL-ACTIVATING PROTEIN 3) (NAP-3).
GN GRO1 OR GROA OR GRO OR MGSA.
OS HOMO SAPIENS (HUMAN)
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC PRIMATES; CATARRHINI; HOMINIDAE; HOMO.
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE; 88041072.
RA ANISOWICZ A., BARDWELL L., SAGER R.;
RT "Constitutive overexpression of a growth-regulated gene in
RT transformed Chinese hamster and human cells.";
RL PROC. NATL. ACAD. SCI. U.S.A. 84:7188-7192(1987).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE; 88328991.
RA RICHMOND A., BALENTIEN E., THOMAS H.G., FLAGGS G., BARTON D.E.,
RA SPIESS J., BORDONI R., FRANCKE U., DERYNCK R.;
RT "Molecular characterization and chromosomal mapping of melanoma
RT growth stimulatory activity, a growth factor structurally related to
RT beta-thromboglobulin.";
RL EMBO J. 7:2025-2033(1988).
RN [3]
RP SEQUENCE FROM N.A.
RC TISSUE-BLOOD;
RX MEDLINE; 91057157.
RA BAKER N.E., KUCERA G., RICHMOND A.;
RT "Nucleotide sequence of the human melanoma growth stimulatory
RT activity (MGSA) gene.";
RL NUCLEIC ACIDS RES. 18:6453-6453(1990).
RN [4]
RP SEQUENCE OF 35-65.
RX MEDLINE; 90217938.
RA SCHROEDER J.-M., PERSON N.L.M., CHRISTOPHERS E.;
RT "Lipopolysaccharide-stimulated human monocytes secrete, apart from
RT neutrophil-activating peptide 1/interleukin 8, a second neutrophil-
RT activating protein. NH2-terminal amino acid sequence identity with
RT melanoma growth stimulatory activity.";
RL J. EXP. MED. 171:1091-1100(1990).
RN [5]
RP SEQUENCE OF 35-57.
RX MEDLINE; 89246368.
RA GOLDS E.E., MASON P., NYIRKOS P.;
RT "Inflammatory cytokines induce synthesis and secretion of gro protein
RT and a neutrophil chemotactic factor but not beta 2-microglobulin in
RT human synovial cells and fibroblasts.";
RL BIOCHEM. J. 259:585-588(1989).

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RN [6]
RP POSSIBLE FUNCTION.
RX MEDLINE; 89356650.
RA WEN D., ROWLAND A., DERYNCK R.;
RT "Expression and secretion of gro/MGSA by stimulated human endothelial
RT cells.";
RL EMBO J. 8:1761-1766(1989).
RN [7]
RP STRUCTURE BY NMR.
RX MEDLINE; 93387459.
RA FAIRBROTHER W.J., REILLY D., COLBY T., HORUK R.;
RT "1H assignment and secondary structure determination of human
RT melanoma growth stimulating activity (MGSA) by NMR spectroscopy.";
RL FEBS LETT. 330:302-306(1993).
RN [8]
RP STRUCTURE BY NMR.
RX MEDLINE; 94376296.
RA FAIRBROTHER W.J., REILLY D., COLBY T., HESSELGESSER J., HORUK R.;
RT "The solution structure of melanoma growth stimulating activity.";
RL J. MOL. BIOL. 242:252-270(1994).
RN [9]
RP STRUCTURE BY NMR.
RX MEDLINE; 95105175.
RA KIM K.S., CLARK-LEWIS I., SYKES B.D.;
RT "Solution structure of GRO/melanoma growth stimulatory activity
RT determined by 1H NMR spectroscopy.";
RL J. BIOL. CHEM. 269:32909-32915(1994).
CC -!- FUNCTION: HAS CHEMOTACTIC ACTIVITY FOR NEUTROPHILS. MAY PLAY A
CC ROLE IN INFLAMMATION AND EXERTS ITS EFFECTS ON ENDOTHELIAL CELLS
CC IN AN AUTOCRINE FASHION.
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
CC C-X-C) (CHEMOKINE CXC).
CC -----
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CC -----
DR EMBL; J03561; G306806; -.
DR EMBL; X12510; G34622; -.
DR EMBL; X54489; G34626; -.
DR PIR; A28414; A28414.
DR PIR; S00983; S00983.
DR PIR; S03976; S03976.
DR PIR; S13669; S13669.
DR PDB; 1MSG; 30-SEP-94.
DR PDB; 1MSH; 31-MAR-95.
DR PDB; 1MSH; 31-MAR-95.
DR MIM; 155730; -.
DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
DR PFAM; PF00048; i18; 1.
KW CYTOKINE; GROWTH FACTOR; INFLAMMATORY RESPONSE; SIGNAL; 3D-STRUCTURE.
FT SIGNAL 1 34
FT CHAIN 35 107 GRO PROTEIN.
FT DISULFID 43 69
FT DISULFID 45 85
SQ SEQUENCE 107 AA; 11301 MW; 4DEE921B CRC32;

Query Match 81.4%; Score 70; DB 1; Length 107;
Best Local Similarity 90.9%; Pred. No. 2.84e-05;
Matches 10; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Db 83 KACLNPASPIV 93
|||||||:|
QY 1 KACLNPASPMV 11

RESULT 7
ID MIP2_MOUSE STANDARD; PRT; 100 AA.
AC P10889;

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DT 01-JUL-1989 (REL. 11, CREATED)
 DT 01-FEB-1991 (REL. 17, LAST SEQUENCE UPDATE)
 DT 15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
 DE MACROPHAGE INFLAMMATORY PROTEIN 2 PRECURSOR (MIP2).
 GN MIP2 OR MIP-2.
 OS MUS MUSCULUS (MOUSE).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; MUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 90354792.
 RA TEKAMP-OLSON P., CALLEGOS C., BAUER D., MCCLAIN J., SHERRY B.,
 RA FABRE M., VAN DEVENTER S., CERAMI A.;
 RT "Cloning and characterization of cDNAs for murine macrophage
 RT inflammatory protein 2 and its human homologues.";
 RL J. EXP. MED. 172:911-919(1990).
 RN [2]
 RP SEQUENCE OF 28-59.
 RX MEDLINE; 89098980.
 RA WOLPE S.D., SHERRY B., JUERS D., DAVATELIS G., YURT R.W., CERAMI A.;
 RT "Identification and characterization of macrophage inflammatory
 RT protein 2.";
 RL PROC. NATL. ACAD. SCI. U.S.A. 86:612-616(1989).
 RN [3]
 RP STRUCTURE BY NMR.
 RX MEDLINE; 98285558.
 RA SHAO W., JERVA L.F., WEST J., LOLLIS E., SCHWEITZER B.I.;
 RT "Solution structure of murine macrophage inflammatory protein-2.";
 RL BIOCHEMISTRY 37:8303-8313(1998).
 CC -!- FUNCTION: CHEMOTACTIC FOR HUMAN POLYMORPHONUCLEAR LEUKOCYTES BUT
 CC DOES NOT INDUCE CHEMOKINESIS OR AN OXIDATIVE BURST.
 CC -!- SUBUNIT: HOMOTETRAMER.
 CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
 CC C-X-C) (CHEMOKINE CXCL).
 CC -----
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 CC -----
 DR EMBL; X53798; G53129; .
 DR PIR; JH0200; JH0200.
 DR PDB; 1MI2; 29-APR-98.
 DR MGD; MGI:96991; MIP2.
 DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
 DR PFAM; PF00048; i18; 1.
 KW CYTOKINE; CHEMOTAXIS; INFLAMMATORY RESPONSE; SIGNAL; 3D-STRUCTURE.
 FT SIGNAL 1 27
 FT CHAIN 28 100 MACROPHAGE INFLAMMATORY PROTEIN 2.
 FT DISULFID 36 62
 FT DISULFID 38 78
 SQ SEQUENCE 100 AA; 10621 MW; 333AC6A4 CRC32;
 Query Match 77.9%; Score 67; DB 1; Length 100;
 Best Local Similarity 58.3%; Pred. No. 1.79e-04;
 Matches 7; Conservative 3; Mismatches 2; Indels 0; Gaps 0;
 Db 76 KVCLEPPEAPLVQ 87
 QY 1 KACLNPASPMVQ 12
 RESULT 8
 ID GROG BOVIN STANDARD; PRT; 98 AA.
 AC O46675;
 DT 15-DEC-1998 (REL. 37, CREATED)
 DT 15-DEC-1998 (REL. 37, LAST SEQUENCE UPDATE)
 DT 15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)
 DE GROWTH REGULATED PROTEIN HOMOLOG GAMMA PRECURSOR (GRO-GAMMA).
 OS BOS TAURUS (BOVINE).

OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC ARTIODACTYLA; RUMINANTIA; PECORA; BOVIDAE; BOVINAE; BOS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RA YOSHIMURA T., MODI W.S.;
 RL SUBMITTED (MAR-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
 CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
 CC C-X-C) (CHEMOKINE CXCL).
 CC -----
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 CC -----
 DR EMBL; U95811; G2735493; .
 DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
 KW CYTOKINE; GROWTH FACTOR; INFLAMMATORY RESPONSE; SIGNAL.
 FT SIGNAL 1 29 POTENTIAL
 FT CHAIN 30 98 GROWTH REGULATED PROTEIN HOMOLOG GAMMA.
 FT DISULFID 39 65 BY SIMILARITY.
 FT DISULFID 41 81 BY SIMILARITY.
 SQ SEQUENCE 98 AA; 10393 MW; ECCC2B4C CRC32;
 Query Match 76.7%; Score 66; DB 1; Length 98;
 Best Local Similarity 88.9%; Pred. No. 3.27e-04;
 Matches 8; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
 Db 81 CLNPAAPMV 89
 QY 3 CLNPASPMV 11
 RESULT 9
 ID GRO_MOUSE STANDARD; PRT; 96 AA.
 AC P12850;
 DT 01-OCT-1989 (REL. 12, CREATED)
 DT 01-OCT-1989 (REL. 12, LAST SEQUENCE UPDATE)
 DT 01-NOV-1997 (REL. 35, LAST ANNOTATION UPDATE)
 DE GROWTH REGULATED PROTEIN PRECURSOR (PLATELET-DERIVED GROWTH FACTOR-
 DE INDUCIBLE PROTEIN KC) (SECRETORY PROTEIN N51).
 GN GRO1 OR GRO OR MGSA.
 OS MUS MUSCULUS (MOUSE).
 OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
 OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; MUS.
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 89139485.
 RA OQUENDO P., ALBERTA J., WEN D., GRAYCAR J.L., DERYNCK R., STILES C.D.;
 RT "The platelet-derived growth factor-inducible KC gene encodes a
 RT secretory protein related to platelet alpha-granule proteins.";
 RL J. BIOL. CHEM. 264:4133-4137(1989).
 RN [2]
 RP SEQUENCE FROM N.A.
 RX MEDLINE; 89078502.
 RA RYSECK R.P., MACDONALD-BRAVO H., MATTEI M.-G., BRAVO R.;
 RT "Cloning and sequence of a secretory protein induced by growth
 RT factors in mouse fibroblasts.";
 RL EXP. CELL RES. 180:266-275(1989).
 RN [3]
 RP SEQUENCE FROM N.A.
 RC STRAIN=129/SV.
 RA BOZIC C.R., KOLAKOWSKI L.F. JR., VON UEXKULL C., GARCIA-RODRIGUEZ M.,
 RA CONKLYN M.J., BRESLOW R., SHOWELL H.J., GERARD N.P., GERARD C.;
 RL SUBMITTED (FEB-1995) TO EMBL/GENBANK/DBJ DATA BANKS.
 RN [4]
 RP SEQUENCE OF 1-10 FROM N.A.
 RC TISSUE=LIVER;
 RX MEDLINE; 96016008.
 RA OHMORI Y., FUKUMOTO S., HAMILTON T.A.;
 RT "Two structurally distinct kappa B sequence motifs cooperatively

RT control LPS-induced KC gene transcription in mouse macrophages.";
RL J. IMMUNOL. 155:3593-3600(1995).
CC -1- FUNCTION: HAS CHEMOTACTIC ACTIVITY FOR NEUTROPHILS. CONTRIBUTES TO
CC NEUTROPHIL ACTIVATION DURING INFLAMMATION (BY SIMILARITY).
CC -1- INDUCTION: BY PLATELET-DERIVED GROWTH FACTOR. IN LUNG, BY
CC LIPOPOLYSACCHARIDE OR INFLAMMATION (BY SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
CC C-X-C) (CHEMOKINE CXCL).
CC -----
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CC -----
CC EMBL; J04596; G201043; -
CC EMBL; U20634; G706843; -
CC EMBL; U20527; G706843; JOINED.
CC EMBL; S79767; E220978; -
CC PIR; A32954; A32954.
CC PIR; JH0081; JH0081.
CC MGD; MGI:108068; GROI.
CC PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
CC PFAM; PF00048; 118; 1.
CC HSP; P09341; 1NSH.
CC CYTOKINE; GROWTH FACTOR; INFLAMMATORY RESPONSE; SIGNAL.
CC SIGNAL 1 24 PROBABLE
CC CHAIN 25 96 GROWTH REGULATED PROTEIN.
CC DISULFID 33 59 BY SIMILARITY.
CC DISULFID 35 75 BY SIMILARITY.
CC SEQUENCE 96 AA; 10254 MW; 36FDD348 CRC32;
CC -----
CC Query Match 74.4%; Score 64; DB 1; Length 96;
CC Best Local Similarity 63.6%; Pred. No. 1.08e-03;
CC Matches 7; Conservative 3; Mismatches 1; Indels 0; Gaps 0;
CC -----
Db 74 ACLDPEAPLVQ 84
QY 2 ACLNPASPMVQ 12
CC -----
RESULT 10
ID GROA_BOVIN STANDARD; PRT; 104 AA.
AC Q46676;
DT 15-DEC-1998 (REL. 37, CREATED)
DT 15-DEC-1998 (REL. 37, LAST SEQUENCE UPDATE)
DT 15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)
DE GROWTH REGULATED PROTEIN HOMOLOG ALPHA PRECURSOR (GRO-ALPHA).
OS BOS TAURUS (BOVINE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC ARTIODACTYLA; RUMINANTIA; PECORA; BOVIDAE; BOVINAE; BOS.
RN [1]
RP SEQUENCE FROM N.A.
RA YOSHIMURA T., MODI W.S.;
RL SUBMITTED (MAR-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
CC -1- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
CC C-X-C) (CHEMOKINE CXCL).
CC -----
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CC -----
CC EMBL; U95812; G2735495; -
CC PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
CC CYTOKINE; GROWTH FACTOR; INFLAMMATORY RESPONSE; SIGNAL.
CC SIGNAL 1 30 POTENTIAL.
CC CHAIN 31 104 GROWTH REGULATED PROTEIN HOMOLOG ALPHA.
CC DISULFID 40 66 BY SIMILARITY.
CC DISULFID 42 82 BY SIMILARITY.
CC SEQUENCE 104 AA; 10950 MW; 2C63B23D CRC32;
CC -----
CC Query Match 74.4%; Score 64; DB 1; Length 104;
CC Best Local Similarity 77.8%; Pred. No. 1.08e-03;
CC Matches 7; Conservative 2; Mismatches 0; Indels 0; Gaps 0;
CC -----
Db 82 CLNPATPMV 90
QY 3 CLNPASPMV 11
CC -----
RESULT 12
ID MIP2_RAT STANDARD; PRT; 100 AA.
AC P30348;
DT 01-APR-1993 (REL. 25, CREATED)
DT 01-APR-1993 (REL. 25, LAST SEQUENCE UPDATE)
DT 01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)
DE MACROPHAGE INFLAMMATORY PROTEIN 2 PRECURSOR (MIP2) (CINC-3).
GN MIP2 OR MIP-2.
OS RATTUS NORVEGICUS (RAT).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; RATTUS.
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN-FISHER 344; TISSUE=LUNG;
RA DRISCOLL K.;
RL SUBMITTED (APR-1992) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [2]

FT DISULFID 40 66 BY SIMILARITY.
FT DISULFID 42 82 BY SIMILARITY.
SQ SEQUENCE 104 AA; 10984 MW; CCFD567E CRC32;
CC -----
CC Query Match 74.4%; Score 64; DB 1; Length 104;
CC Best Local Similarity 77.8%; Pred. No. 1.08e-03;
CC Matches 7; Conservative 2; Mismatches 0; Indels 0; Gaps 0;
CC -----
Db 82 CLNPATPMV 90
QY 3 CLNPASPMV 11
CC -----
RESULT 11
ID GROB_BOVIN STANDARD; PRT; 104 AA.
AC Q46677;
DT 15-DEC-1998 (REL. 37, CREATED)
DT 15-DEC-1998 (REL. 37, LAST SEQUENCE UPDATE)
DT 15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)
DE GROWTH REGULATED PROTEIN HOMOLOG BETA PRECURSOR (GRO-BETA).
OS BOS TAURUS (BOVINE).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC ARTIODACTYLA; RUMINANTIA; PECORA; BOVIDAE; BOVINAE; BOS.
RN [1]
RP SEQUENCE FROM N.A.
RA YOSHIMURA T., MODI W.S.;
RL SUBMITTED (MAR-1997) TO EMBL/GENBANK/DBJ DATA BANKS.
CC -1- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
CC C-X-C) (CHEMOKINE CXCL).
CC -----
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CC -----
CC EMBL; U95813; G2735497; -
CC PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
CC CYTOKINE; GROWTH FACTOR; INFLAMMATORY RESPONSE; SIGNAL.
CC SIGNAL 1 30 POTENTIAL.
CC CHAIN 31 104 GROWTH REGULATED PROTEIN HOMOLOG BETA.
CC DISULFID 40 66 BY SIMILARITY.
CC DISULFID 42 82 BY SIMILARITY.
CC SEQUENCE 104 AA; 10950 MW; 2C63B23D CRC32;
CC -----
CC Query Match 74.4%; Score 64; DB 1; Length 104;
CC Best Local Similarity 77.8%; Pred. No. 1.08e-03;
CC Matches 7; Conservative 2; Mismatches 0; Indels 0; Gaps 0;
CC -----
Db 82 CLNPATPMV 90
QY 3 CLNPASPMV 11
CC -----
RESULT 12
ID MIP2_RAT STANDARD; PRT; 100 AA.
AC P30348;
DT 01-APR-1993 (REL. 25, CREATED)
DT 01-APR-1993 (REL. 25, LAST SEQUENCE UPDATE)
DT 01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)
DE MACROPHAGE INFLAMMATORY PROTEIN 2 PRECURSOR (MIP2) (CINC-3).
GN MIP2 OR MIP-2.
OS RATTUS NORVEGICUS (RAT).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; RATTUS.
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN-FISHER 344; TISSUE=LUNG;
RA DRISCOLL K.;
RL SUBMITTED (APR-1992) TO EMBL/GENBANK/DBJ DATA BANKS.
RN [2]


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RESULT 14
ID RPOB_NEIME STANDARD; PRT; 1389 AA.
AC Q59622;
DT 01-NOV-1997 (REL. 35, CREATED)
DT 01-NOV-1997 (REL. 35, LAST SEQUENCE UPDATE)
DT 15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)
DE DNA-DIRECTED RNA POLYMERASE BETA CHAIN (EC 2.7.7.6) (TRANSCRIPTASE
DE BETA CHAIN) (RNA POLYMERASE BETA SUBUNIT).
GN RPOB.
OS NEISSERIA MENINGITIDIS.
OC BACTERIA; PROTEOBACTERIA; BETA SUBDIVISION; NEISSERIAE; NEISSERIA.
[1]
RN SEQUENCE FROM N.A.
RP STRAIN-BNCV;
RC
RA NOLTE O.J.;
RL SUBMITTED (OCT-1995) TO EMBL/GENBANK/DBJ DATA BANKS.
CC -!- FUNCTION: DNA-DEPENDENT RNA POLYMERASE CATALYZES THE TRANSCRIPTION
CC OF DNA INTO RNA USING THE FOUR RIBONUCLEOSIDE TRIPHOSPHATES AS
CC SUBSTRATES.
CC -!- CATALYTIC ACTIVITY: N NUCLEOSIDE TRIPHOSPHATE = N PYROPHOSPHATE +
CC RNA(N).
CC -!- SUBUNIT: THE ENZYME CONSISTS OF THE SIGMA CHAIN AND THE CORE
CC ENZYME WHICH IS COMPOSED OF 2 ALPHA CHAINS, 1 BETA CHAIN, AND 1
CC BETA' CHAIN.
CC -!- SIMILARITY: BELONGS TO THE RNA POLYMERASE BETA CHAIN FAMILY.
CC
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CC
CC EMBL; Z54353; E244390; -.
DR PROSITE; PS01166; RNA_POL_BETA; 1.
DR PFAM; PF00562; RNA_POL_B; 1.
KW TRANSFERASE; TRANSCRIPTION; DNA-DIRECTED RNA POLYMERASE.
SQ SEQUENCE 1389 AA; 155579 MW; 5B84C720 CRC32;
-----
Query Match 66.38; Score 57; DB 1; Length 1389;
Best Local Similarity 70.0%; Pred. No. 6.07e-02; Mismatches 3; Indels 0; Gaps 0;
Matches 7; Conservative 0;
Db 717 ACLRPEKPMV 726
QY 2 ACLNPASPMV 11
    ||| | |||
    ||| | |||
-----
RESULT 15
ID GRO2_RABIT STANDARD; PRT; 104 AA.
AC P47854;
DT 01-FEB-1996 (REL. 33, CREATED)
DT 01-FEB-1996 (REL. 33, LAST SEQUENCE UPDATE)
DT 01-FEB-1996 (REL. 33, LAST ANNOTATION UPDATE)
DE GROWTH REGULATED PROTEIN HOMOLOG PRECURSOR (GRO HOMOLOG).
OS ORYCTOLAGUS CUNICULUS (RABBIT).
OC EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
OC LAGOMORPHA; LEPORIDAE; ORYCTOLAGUS.
[1]
RN SEQUENCE FROM N.A.
RP SCHWARTZ D., CHAVERRI-ALAMADA L., BERLINER J., KIRCHGESNER T.,
RA QUISOMORO D., FANG J., TEKAMP-OLSON P., LUSIS J., FOGELMAN A.,
RA TERRITO M.;
RL SUBMITTED (JUL-1994) TO EMBL/GENBANK/DBJ DATA BANKS.
CC -!- FUNCTION: PLAYS A ROLE IN MONOCYTE ADHESION TO THE ENDOTHELIUM.
CC -!- SIMILARITY: BELONGS TO THE INTERCRINE ALPHA FAMILY (SMALL CYTOKINE
CC C-X-C) (CHEMOKINE CXC).
CC
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CC
CC EMBL; U12310; G520743; -.
DR PROSITE; PS00471; SMALL_CYTOKINES_CXC; 1.
DR PFAM; PF00048; I18; 1.
DR HSP; P09341; IMGs.
KW CYTOKINE; GROWTH FACTOR; INFLAMMATORY RESPONSE; SIGNAL.
FT SIGNAL 1 31 PROBABLE.
FT CHAIN 32 104 GROWTH REGULATED PROTEIN HOMOLOG.
FT DISULFID 40 66 BY SIMILARITY.
FT DISULFID 42 82 BY SIMILARITY.
SQ SEQUENCE 104 AA; 10900 MW; C75AEF07 CRC32;
-----
Query Match 64.0%; Score 55; DB 1; Length 104;
Best Local Similarity 66.7%; Pred. No. 1.82e-01;
Matches 6; Conservative 3; Mismatches 0; Indels 0; Gaps 0;
Db 82 CLNPAPV 90
QY 3 CLNPASPMV 11
    |||||:|:|
    |||||:|:|
-----
Search completed: Fri Feb 4 18:15:14 2000
Job time : 7 secs.

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SUMMARY          #length 107  #molecular-weight 11389  #checksum 929

Query Match      91.9%;  Score 79;  DB 2;  Length 107;
Best Local Similarity 100.0%;  Pred. No. 1.26e-06;
Matches 11;  Conservative 0;  Mismatches 0;  Indels 0;  Gaps 0;

Db 83 KACLNPPSPMV 93
|||||:|||||
QY 1 KACLNPPSPMV 11

RESULT 3
ENTRY B28414 #type complete
TITLE growth-regulated protein precursor - Chinese hamster
ORGANISM #formal_name Cricetus griseus #common_name Chinese hamster
DATE 30-Jun-1989 #sequence_revision 30-Jun-1989 #text_change
20-Mar-1998

ACCESSIONS B28414
REFERENCE A94184
#authors Anisowicz, A.; Bardwell, L.; Sager, R.
#journal Proc. Natl. Acad. Sci. U.S.A. (1987) 84:7188-7192
#title Constitutive overexpression of a growth-regulated gene in
transformed Chinese hamster and human cells.
#cross-references MUID:88041072
#accession B28414
#molecule_type mRNA
#residues 1-101 ##label ANI
##cross-references GB:J03560; NID:g191088; PID:g304509
##note the authors translated the codon CAG for residue 52 as
Glu

CLASSIFICATION #superfamily beta-thromboglobulin
FEATURE
1-23 #domain signal sequence #status predicted #label SIG\
24-101 #product growth-regulated protein #status predicted
#label MAT

SUMMARY          #length 101  #molecular-weight 10893  #checksum 3057

Query Match      84.9%;  Score 73;  DB 2;  Length 101;
Best Local Similarity 81.8%;  Pred. No. 3.95e-05;
Matches 9;  Conservative 1;  Mismatches 1;  Indels 0;  Gaps 0;

Db 78 ACLNPSPMVQ 88
||||:||||
QY 2 ACLNPSPMVQ 12

RESULT 4
ENTRY I64831 #type fragment
TITLE gene KC protein - rat (fragment)
ORGANISM #formal_name Rattus sp. #common_name rat
DATE 02-Aug-1996 #sequence_revision 02-Aug-1996 #text_change
23-Feb-1997

ACCESSIONS I64831
REFERENCE I51886
#authors Huang, S.; Paulauskis, J.D.; Godleski, J.J.; Kobzik, L.
#journal Am. J. Pathol. (1992) 141:981-988
#title Expression of macrophage inflammatory protein-2 and KC mRNA
in pulmonary inflammation.
#cross-references MUID:93035653
#accession I64831
#status preliminary; translated from GB/EMBL/DBDJB
#molecule_type mRNA
#residues 1-53 ##label RES
##cross-references GB:S45856; NID:g257055

GENETICS
#gene KC
CLASSIFICATION #superfamily beta-thromboglobulin
SUMMARY          #length 53  #checksum 8839

Query Match      82.6%;  Score 71;  DB 2;  Length 53;
Best Local Similarity 72.7%;  Pred. No. 1.22e-04;
Matches 8;  Conservative 2;  Mismatches 1;  Indels 0;  Gaps 0;

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Db      39  ACLDPEAPMVQ 49
QY      2  ACLNPASPMVQ 12

RESULT  5
ENTRY   JN0572      #type complete
TITLE   neutrophil chemo-attractant Gro protein precursor - rat
ALTERNATE_NAMES CINC; cytokine-induced neutrophil chemoattractant; interleukin-8-like chemokine
ORGANISM #formal_name Rattus norvegicus #common_name Norway rat
DATE     30-Sep-1993 #sequence_revision 30-Sep-1993 #text_change 08-Sep-1997
ACCESSION JN0572; JQ1519; A34481; A48988; B48988; S51214
REFERENCE JN0572
#authors Konishi, K.; Takata, Y.; Yamamoto, M.; Yomogida, K.; Watanabe, K.; Tsurufuji, S.; Fujioka, M.
#journal Gene (1993) 126:285-286
#title Structure of the gene encoding rat neutrophil chemo-attractant Gro.
#cross-references MUID:93246259
#accession JN0572
##molecule_type DNA
##residues 1-96 ##label KON
##cross-references DBJ:DL1445; NID:g391854; PID:d1002491; PID:g220755
REFERENCE JQ1519
#authors Huang, S.; Paulauskis, J.D.; Kobzik, L.
#journal Biochem. Biophys. Res. Commun. (1992) 184:922-929
#title Rat KC cDNA cloning and mRNA expression in lung macrophages and fibroblasts.
#cross-references MUID:92246987
#accession JQ1519
##molecule_type mRNA
##residues 1-32,'34-96 ##label HUA
##cross-references GB:M86536
##experimental_source alveolar macrophage
##note the authors translated the codon AGT for residue 33 as Cys, AAC for residue 46 as Gln
REFERENCE A34481
#authors Watanabe, K.; Konishi, K.; Fujioka, M.; Kinoshita, S.; Nakagawa, H.
#journal J. Biol. Chem. (1989) 264:19559-19563
#title The neutrophil chemoattractant produced by the rat kidney epithelioid cell line NRK-52E is a protein related to the KC/gro protein.
#cross-references MUID:90062049
#accession A34481
##molecule_type protein
##residues 25-96 ##label WAT
REFERENCE A48988
#authors Nakagawa, H.; Ikesue, A.; Hatakeyama, S.; Kato, H.; Gotoda, T.; Komorita, N.; Watanabe, K.; Miyai, H.
#journal Biochem. Pharmacol. (1993) 45:1425-1430
#title Production of an interleukin-8-like chemokine by cytokine-stimulated rat NRK-49F fibroblasts and its suppression by anti-inflammatory steroids.
#cross-references MUID:93228656
#accession A48988
##status preliminary
##molecule_type protein
##residues 25-57 ##label NAK
##experimental_source kidney, NRK-49F fibroblasts
##note sequence extracted from NCBI backbone (NCBIP:129132)
#accession B48988
##status preliminary
##molecule_type protein
##residues 25-57 ##label NAK2
##experimental_source kidney, NRK-49F fibroblasts
##note sequence extracted from NCBI backbone (NCBIP:129131)
REFERENCE S51214
#authors Hanzawa, H.; Haruyama, H.; Watanabe, K.; Tsurufuji, S.
#journal FEBS Lett. (1994) 354:207-212
#title The three dimensional structure of rat cytokine CINC/Gro in
  
```

```

#cross-references MUID:95046335
#contents annotation; conformation by (1)H-NMR, residues 25-96
#accession S51214
##molecule_type protein
##residues 25-96 ##label HAN
COMMENT This protein has chemotactic activity for neutrophils and has melanoma growth-stimulating activity.
GENETICS
#gene gro; KC
#introns 24/1; 65/2; 92/2
CLASSIFICATION #superfamily beta-thromboglobulin
KEYWORDS cytokine; disulfide bond
FEATURE 1-24
25-96
#domain signal sequence #status predicted #label SIG\
#product neutrophil chemo-attractant Gro protein #status experimental #label CYT
SUMMARY #length 96 #molecular-weight 10249 #checksum 5749
Query Match 82.6%; Score 71; DB 2; Length 96;
Best Local Similarity 72.7%; Pred. No. 1.22e-04;
Matches 8; Conservative 2; Mismatches 1; Indels 0; Gaps 0;
Db 74 ACLDPEAPMVQ 84
QY 2 ACLNPASPMVQ 12

RESULT 6
ENTRY A28414 #type complete
TITLE melanoma growth-stimulatory activity precursor - human
ALTERNATE_NAMES fibroblast-derived neutrophil-activating protein gamma; GRO-alpha; growth regulated protein; MGSA; NAP-3 melanoma mitogenic protein
ORGANISM #formal_name Homo sapiens #common_name man
DATE 30-Jun-1989 #sequence_revision 30-Jun-1989 #text_change 08-Sep-1997
ACCESSIONS S13669; A28414; S00983; B60401; S03976; A47626; B46519
REFERENCE S13669
#authors Baker, N.E.; Kucera, G.; Richmond, A.
#journal Nucleic Acids Res. (1990) 18:6453
#title Nucleotide sequence of the human melanoma growth stimulatory activity (MGSA) gene.
#cross-references MUID:91057157
#accession S13669
##status preliminary
##molecule_type DNA
##residues 1-107 ##label BAK
##cross-references EMBL:X54489; NID:g34625; PID:g34626
REFERENCE A94184
#authors Anisowicz, A.; Bardwell, L.; Sager, R.
#journal Proc. Natl. Acad. Sci. U.S.A. (1987) 84:7188-7192
#title Constitutive overexpression of a growth-regulated gene in transformed Chinese hamster and human cells.
#cross-references MUID:88041072
#accession A28414
##molecule_type mRNA
##residues 1-107 ##label ANI
##cross-references GB:J03561; NID:g183622; PID:g306806
REFERENCE S00983
#authors Richmond, A.; Balentien, E.; Thomas, H.G.; Flaggs, G.; Barton, D.E.; Spiess, J.; Bordon, R.; Francke, U.; Derynck, R.
#journal EMBO J. (1988) 7:2025-2033
#title Molecular characterization and chromosomal mapping of melanoma growth stimulatory activity, a growth factor structurally related to beta-thromboglobulin.
#cross-references MUID:88328991
#accession S00983
##molecule_type mRNA
##residues 1-107 ##label RIC
##cross-references EMBL:X12510; NID:g34621; PID:g34622
REFERENCE A60401
  
```

```

#authors Schroeder, J.M.; Sticherling, M.; Henneicke, H.H.; Preissner,
#journal W.C.; Christophers, E.
#title J. Immunol. (1990) 144:2223-2232
#cross-references MUID:90187866
#accession B60401
#molecule_type protein
#residues 35-42,'X',44,'X',46-48 ##label SCH
#experimental_source dermal fibroblasts
REFERENCE S03975
#authors Golds, E.E.; Mason, P.; Nyirkos, P.
#journal Biochem. J. (1989) 259:585-588
#title Inflammatory cytokines induce synthesis and secretion of gro
protein and a neutrophil chemotactic factor but not
beta-2-microglobulin in human synovial cells and
fibroblasts.
#cross-references MUID:89246368
#accession S03976
#molecule_type protein
#residues 35-41,'X',43-49,'X',51-52,'XX',55-57 ##label GOL
REFERENCE A47626
#authors Schroeder, J.M.; Persoon, N.L.M.; Christophers, E.
#journal J. Exp. Med. (1990) 171:1091-1100
#title Lipopolysaccharide-stimulated human monocytes secrete, apart
from neutrophil-activating peptide 1/interleukin 8, a
second neutrophil-activating protein. NH-2-terminal amino
acid sequence identity with melanoma growth stimulatory
activity.
#accession A47626
#molecule_type protein
#residues 35-63,'X',65 ##label SC2
#experimental_source LPS-stimulated monocytes
REFERENCE A46519
#authors Proost, P.; De Wolf-Peeters, C.; Conings, R.; Opdenakker, G.;
Billiau, A.; Van Damme, J.
#journal J. Immunol. (1993) 150:1000-1010
#title Identification of a novel granulocyte chemotactic protein
(GCP-2) from human tumor cells. In vitro and in vivo
comparison with natural forms of GRO, IP-10, and IL-8.
#cross-references MUID:93139489
#accession B46519
#molecule_type protein
#residues 35-62 ##label PRO
#experimental_source MG-63 osteosarcoma cells
GENETICS
#gene GDB:GRO1
#cross-references GDB:120181; OMIM:155730
#map_position 4q21-4q21
CLASSIFICATION #superfamily beta-thromboglobulin
FEATURE
1-34 #domain signal sequence #status predicted #label SIG\
35-107 #product melanoma growth-stimulatory activity #status
experimental #label MAT
SUMMARY #length 107 #molecular-weight 11301 #checksum 1301
Query Match 81.4%; Score 70; DB 2; Length 107;
Best Local Similarity 90.9%; Pred. No. 2.12e-04;
Matches 10; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
DB 83 KACLNPASPIV 93
QY 1 KACLNPASPMV 11
|||||||
RESULT 7 JH0200 #type complete
ENTRY macrophage inflammatory protein 2 precursor - mouse
TITLE #formal_name Mus musculus #common_name house mouse
ORGANISM 30-Sep-1991 #sequence_revision 30-Sep-1991 #text_change
DATE 08-Sep-1997
ACCESSIONS JH0200; A32190

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REFERENCE JH0200
#authors Tekamp-Olson, P.; Gallegos, C.; Bauer, D.; McClain, J.;
Sherry, B.; Fabre, M.; van Deventer, S.; Cerami, A.
#journal J. Exp. Med. (1990) 172:911-919
#title Cloning and characterization of cDNAs for murine macrophage
inflammatory protein 2 and its human homologues.
#cross-references MUID:90354792
#accession JH0200
#molecule_type mRNA
#residues 1-100 ##label TEK
#cross-references GB:X53798; NID:g53128; PID:g53129
REFERENCE A32190
#authors Wolpe, S.D.; Sherry, B.; Juers, D.; Davatelis, G.; Yurt,
R.W.; Cerami, A.
#journal Proc. Natl. Acad. Sci. U.S.A. (1989) 86:612-616
#title Identification and characterization of macrophage
inflammatory protein 2.
#cross-references MUID:89098980
#accession A32190
#molecule_type protein
#residues 28-59 ##label WOL
CLASSIFICATION #superfamily beta-thromboglobulin
KEYWORDS heparin binding
FEATURE
1-27 #domain signal sequence #status predicted #label SIG\
28-100 #product macrophage inflammatory protein 2 #status
experimental #label MAT
SUMMARY #length 100 #molecular-weight 10621 #checksum 8720
Query Match 77.9%; Score 67; DB 2; Length 100;
Best Local Similarity 58.3%; Pred. No. 1.11e-03;
Matches 7; Conservative 3; Mismatches 2; Indels 0; Gaps 0;
DB 76 KVCLDPEAPLVQ 87
QY 1 KACLNPASPMVQ 12
|||||
RESULT 8
ENTRY gro-alpha precursor - mouse
TITLE gro protein: growth regulated protein; melanoma
ALTERNATE_NAMES growth-stimulating activity factor; melanoma mitogenic
protein; secretory protein N51
ORGANISM #formal_name Mus musculus #common_name house mouse
DATE 20-Oct-1989 #sequence_revision 20-Oct-1989 #text_change
08-Sep-1997
ACCESSIONS A32954; JH0081
REFERENCE A32954
#authors Qquendo, P.; Alberta, J.; Wen, D.; Graycar, J.L.; Derynck,
R.; Stiles, C.D.
#journal J. Biol. Chem. (1989) 264:4133-4137
#title The platelet-derived growth factor-inducible KC gene encodes
a secretory protein related to platelet alpha-granule
proteins
#cross-references MUID:89139485
#accession A32954
#molecule_type mRNA
#residues 1-96 ##label OQU
#cross-references GB:J04596; NID:g201042; PID:g201043
REFERENCE JH0081
#authors Ryseck, R.P.; MacDonald-Bravo, H.; Mattei, M.G.; Bravo, R.
#journal Exp. Cell Res. (1989) 180:266-275
#title Cloning and sequence of a secretory protein induced by growth
factors in mouse fibroblasts.
#cross-references MUID:89078502
#accession JH0081
#molecule_type mRNA
#residues 1-96 ##label RYS
COMMENT This protein is basic and lacks threonine, phenylalanine, and
tyrosine.
GENETICS
#map_position 5

```

CLASSIFICATION #superfamily beta-thromboglobulin
 KEYWORDS extracellular protein
 FEATURE

1-24 #domain signal sequence #status predicted #label SIC
 25-96 #product gro-alpha #status predicted #label MAT
 SUMMARY #length 96 #molecular-weight 10254 #checksum 5052

Query Match 74.4%; Score 64; DB 2; Length 96;

Best Local Similarity 63.6%; Pred. No. 5.59e-03;
 Matches 7; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

Db 74 ACLDPEAPLVQ 84

QY 2 ACLNPASPMVQ 12

RESULT 9
 ENTRY I51886 #type fragment
 TITLE macrophage inflammatory protein-2 - rat (fragment)
 ORGANISM #formal_name Rattus sp. #common_name rat
 DATE 12-Aug-1996 #sequence_revision 12-Aug-1996 #text_change 16-Feb-1997

ACCESSIONS I51886
 REFERENCE I51886
 #authors Huang, S.; Paulauskis, J.D.; Godleski, J.J.; Kobzik, L.
 #journal Am. J. Pathol. (1992) 141:981-988
 #title Expression of macrophage inflammatory protein-2 and KC mRNA in pulmonary inflammation.

#cross-references MUID:93035653

#accession I51886
 ##status preliminary; translated from GB/EMBL/DBJ

##molecule_type mRNA

##residues 1-53 #label RES

##cross-references GB:S45855; NID:g257054

CLASSIFICATION #superfamily beta-thromboglobulin

SUMMARY #length 53 #checksum 9622

Query Match 72.1%; Score 62; DB 2; Length 53;

Best Local Similarity 70.0%; Pred. No. 1.61e-02;

Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 40 CLNPAPLVQ 49

QY 3 CLNPASPMVQ 12

RESULT 10
 ENTRY I55614 #type complete
 TITLE macrophage inflammatory protein-2 - rat
 ORGANISM #formal_name Rattus sp. #common_name rat
 DATE 26-Jul-1996 #sequence_revision 26-Jul-1996 #text_change 16-Feb-1997

ACCESSIONS I55614

REFERENCE I55614

#authors Feng, L.; Xia, Y.; Yoshimura, T.; Wilson, C.B.

#journal J. Clin. Invest. (1995) 95:1009-1017

#title Modulation of neutrophil influx in glomerulonephritis in the rat with anti-macrophage inflammatory protein-2 (MIP-2) antibody.

#cross-references MUID:95189993

#accession I55614

##status preliminary; translated from GB/EMBL/DBJ

##molecule_type mRNA

##residues 1-100 #label RES

##cross-references GB:S77604; NID:g998406; PID:g998407

CLASSIFICATION #superfamily beta-thromboglobulin

SUMMARY #length 100 #molecular-weight 10783 #checksum 709

Query Match 72.1%; Score 62; DB 2; Length 100;

Best Local Similarity 70.0%; Pred. No. 1.61e-02;

Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 78 CLNPAPLVQ 87

QY 3 CLNPASPMVQ 12

RESULT 11
 ENTRY S21467 #type complete
 TITLE macrophage inflammatory protein 2 - rat
 ORGANISM #formal_name Rattus norvegicus #common_name Norway rat
 DATE 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change 08-Sep-1997

ACCESSIONS S21467; D48988

REFERENCE S21467

#authors Driscoll, K.

#submission submitted to the EMBL Data Library, April 1992

#accession S21467

##status preliminary

##molecule_type mRNA

##residues 1-100 #label DRI

##cross-references EMBL:X65647; NID:g56665; PID:g56666

REFERENCE A48988

#authors Nakagawa, H.; Ikesue, A.; Hatakeyama, S.; Kato, H.; Gotoda, T.; Komorita, N.; Watanabe, K.; Miyai, H.

#journal Biochem. Pharmacol. (1993) 45:1425-1430

#title Production of an interleukin-8-like chemokine by cytokine-stimulated rat NRK-49F fibroblasts and its suppression by anti-inflammatory steroids.

#cross-references MUID:93228636

#accession D48988

##status preliminary

##molecule_type protein

##residues 32-45 #label NAK

##experimental_source kidney, NRK-49F fibroblasts

##note sequence extracted from NCBI backbone (NCBIP:129129)

CLASSIFICATION #superfamily beta-thromboglobulin

SUMMARY #length 100 #molecular-weight 10783 #checksum 709

Query Match 72.1%; Score 62; DB 2; Length 100;

Best Local Similarity 70.0%; Pred. No. 1.61e-02;

Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Db 78 CLNPAPLVQ 87

QY 3 CLNPASPMVQ 12

RESULT 12
 ENTRY A29029 #type fragment
 TITLE gag polyprotein - mouse mammary tumor virus (strain C3H) (fragment)

ORGANISM #formal_name mouse mammary tumor virus, MMTV

DATE 30-Sep-1993 #sequence_revision 30-Sep-1993 #text_change 29-Jan-1999

ACCESSIONS A29029

REFERENCE A94161

#authors Jacks, T.; Townsley, K.; Varmus, H.E.; Majors, J.

#journal Proc. Natl. Acad. Sci. U.S.A. (1987) 84:4298-4302

#title Two efficient ribosomal frameshifting events are required for synthesis of mouse mammary tumor virus gag-related polyproteins.

#cross-references MUID:87231993

#accession A29029

##molecule_type DNA

##residues 1-233 #label JAC

##cross-references GB:M16766; NID:g332107; PID:g332108

GENETICS

#gene gag

CLASSIFICATION #superfamily mouse mammary tumor virus gag polyprotein

KEYWORDS core protein; DNA binding; polyprotein

SUMMARY #length 233 #checksum 5628

Query Match 61.6%; Score 53; DB 2; Length 233;

Best Local Similarity 41.7%; Pred. No. 1.52e+00;

Matches 5; Conservative 7; Mismatches 0; Indels 0; Gaps 0;

Db 123 RACLDASPAVQ 134
:||||:|||||
QY 1 KACLNPASPMVQ 12

RESULT 13
ENTRY FOMVNM #type complete
TITLE gag polypeptide - mouse mammary tumor virus
ORGANISM #formal_name mouse mammary tumor virus, MMTV
DATE 31-Mar-1989 #sequence_revision 31-Mar-1989 #text_change 14-Nov-1997

ACCESSIONS A26795
REFERENCE A93030
#authors Moore, R.; Dixon, M.; Smith, R.; Peters, G.; Dickson, C.
#journal J. Virol. (1987) 61:480-490
#title Complete nucleotide sequence of a milk-transmitted mouse mammary tumor virus: two frameshift suppression events are required for translation of gag and pol.

#cross-references MUID:87112944
#accession A26795
##molecule_type DNA
##residues 1-591 #label MOO
##cross-references EMBL:M15122; NID:g332127; PID:g332130

GENETICS
#gene gag
CLASSIFICATION #superfamily mouse mammary tumor virus gag polypeptide
KEYWORDS core protein; DNA binding; polypeptide
SUMMARY #length 591 #molecular-weight 66269 #checksum 4227

Query Match 61.6%; Score 53; DB 1; Length 591;
Best Local Similarity 41.7%; Pred. No. 1.52e+00;
Matches 5; Conservative 7; Mismatches 0; Indels 0; Gaps 0;

Db 481 RACLDASPAVQ 492
:||||:|||||
QY 1 KACLNPASPMVQ 12

RESULT 14
ENTRY S20444 #type complete
TITLE leukotriene-A4 hydrolase (EC 3.3.2.6) - rat
ORGANISM #formal_name Rattus norvegicus #common_name Norway rat
DATE 22-Nov-1993 #sequence_revision 10-Nov-1995 #text_change 29-Jan-1999

ACCESSIONS S20444
REFERENCE S20444
#authors Makita, N.; Funk, C.D.; Imai, E.; Hoover, R.L.; Badr, K.F.
#journal FEBS Lett. (1992) 299:273-277
#title Molecular cloning and functional expression of rat leukotriene A(4) hydrolase using the polymerase chain reaction.

#cross-references MUID:92183952
#accession S20444
##molecule_type mRNA
##residues 1-610 #label MAK
##cross-references GB:S87522; NID:g247155; PID:g247156
CLASSIFICATION #superfamily leukotriene-A4 hydrolase
KEYWORDS ether hydrolase
SUMMARY #length 610 #molecular-weight 69175 #checksum 9336

Query Match 61.6%; Score 53; DB 2; Length 610;
Best Local Similarity 45.3%; Pred. No. 1.52e+00;
Matches 5; Conservative 5; Mismatches 1; Indels 0; Gaps 0;

Db 592 KACMHPVTAML 602
:||||:|||||
QY 1 KACLNPASPMV 11

RESULT 15
ENTRY S42881 #type complete

platelet basic protein - pig
#formal_name Sus scrofa domestica #common_name domestic pig
06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change 17-Mar-1999

ACCESSIONS S43460; S42881
REFERENCE S43460
#authors Power, C.A.; Proudfoot, A.E.I.; Magnenat, E.; Bacon, K.B.; Wells, T.N.C.
#journal Eur. J. Biochem. (1994) 221:713-719
#title Molecular cloning and characterisation of a neutrophil chemotactic protein from porcine platelets.

#cross-references MUID:94229068
#accession S43460
##status preliminary
##molecule_type mRNA
##residues 1-119 #label POW
##cross-references EMBL:X77935; NID:g457753; PID:g457754
CLASSIFICATION #superfamily beta-thromboglobulin
SUMMARY #length 119 #molecular-weight 12615 #checksum 9198

Query Match 60.5%; Score 52; DB 2; Length 119;
Best Local Similarity 45.5%; Pred. No. 2.45e+00;
Matches 5; Conservative 3; Mismatches 3; Indels 0; Gaps 0;

Db 94 KICLDPEAPRI 104
|:|:|:|:|:
QY 1 KACLNPASPMV 11

Search completed: Fri Feb 4 18:14:50 2000
Job time : 30 secs.

MIP-2-ALPHA

(TM)

Release 3.1A John F. Collins, Biocomputing Research Unit.
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MPSrch_pp protein - protein database search, using Smith-Waterman algorithm
Run on: Fri Feb 4 18:13:45 2000; MasPar time 3.51 Seconds
Tabular output not generated.
Title: >US-09-150-813-74
Description: (1-12) from US09150813.pep
Perfect Score: 86
Sequence: 1 KACLNPA5PMVQ 12
Scoring table: PAM 150
Gap 15
Searched: 170751 seqs, 21266608 residues
Post-processing: Minimum Match 0%
Listing first 45 summaries
Database: a-geneseq35
1:part1 2:part2 3:part3 4:part4 5:part5 6:part6 7:part7
8:part8 9:part9 10:part10 11:part11 12:part12 13:part13
14:part14 15:part15 16:part16 17:part17 18:part18
19:part19 20:part20 21:part21 22:part22 23:part23
24:part24 25:part25 26:part26 27:part27 28:part28
29:part29 30:part30 31:part31 32:part32 33:part33
34:part34 35:part35 36:part36 37:part37 38:part38
39:part39

Statistics: Mean 16.868; Variance 48.677; scale 0.347
Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
SUMMARIES
Result No. Score Match Length DB ID Description Pred. No.
1 86 100.0 73 39 W81500 Human mature gro-gamma 3.48e-03
2 86 100.0 73 25 W18026 Human chemokine gro g 3.48e-03
3 86 100.0 73 23 W12434 Chimeric interleukin- 3.48e-03
4 86 100.0 73 17 R9194 Protein used to gener 3.48e-03
5 86 100.0 73 7 R36772 MIP-2beta. 3.48e-03
6 86 100.0 73 12 R66700 Human gro-gamma chemo 3.48e-03
7 86 100.0 73 24 W17672 Human chemokine gro g 3.48e-03
8 86 100.0 106 4 R20335 Human gro gamma cyto 3.48e-03
9 86 100.0 107 4 R20530 Human macrophage infl 3.48e-03
10 86 100.0 107 4 R20590 Human macrophage infl 3.48e-03
11 86 100.0 107 13 R70794 Gro-gamma/MIP-2-beta. 3.48e-03
12 79 91.9 73 39 W81499 human gro-beta polype 2.65e-02
13 79 91.9 73 12 R66699 Human gro-beta chemok 2.65e-02
14 79 91.9 73 24 W17671 Human chemokine gro b 2.65e-02
15 79 91.9 73 25 W18025 Human chemokine gro b 2.65e-02
16 79 91.9 73 7 R36771 MIP-2alpha. 2.65e-02

US-09-150-813-74.rag

MIP-2-ALPHA

(TM)

Release 3.1A John F. Collins, Biocomputing Research Unit.
Copyright (c) 1993-1998 University of Edinburgh, U.K.
Distribution Rights by Oxford Molecular Ltd
MPSrch_pp protein - protein database search, using Smith-Waterman algorithm
Run on: Fri Feb 4 18:13:45 2000; MasPar time 3.51 Seconds
Tabular output not generated.
Title: >US-09-150-813-74
Description: (1-12) from US09150813.pep
Perfect Score: 86
Sequence: 1 KACLNPA5PMVQ 12
Scoring table: PAM 150
Gap 15
Searched: 170751 seqs, 21266608 residues
Post-processing: Minimum Match 0%
Listing first 45 summaries
Database: a-geneseq35
1:part1 2:part2 3:part3 4:part4 5:part5 6:part6 7:part7
8:part8 9:part9 10:part10 11:part11 12:part12 13:part13
14:part14 15:part15 16:part16 17:part17 18:part18
19:part19 20:part20 21:part21 22:part22 23:part23
24:part24 25:part25 26:part26 27:part27 28:part28
29:part29 30:part30 31:part31 32:part32 33:part33
34:part34 35:part35 36:part36 37:part37 38:part38
39:part39

Statistics: Mean 16.868; Variance 48.677; scale 0.347
Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
SUMMARIES
Result No. Score Match Length DB ID Description Pred. No.
1 86 100.0 73 39 W81500 Human mature gro-gamma 3.48e-03
2 86 100.0 73 25 W18026 Human chemokine gro g 3.48e-03
3 86 100.0 73 23 W12434 Chimeric interleukin- 3.48e-03
4 86 100.0 73 17 R9194 Protein used to gener 3.48e-03
5 86 100.0 73 7 R36772 MIP-2beta. 3.48e-03
6 86 100.0 73 12 R66700 Human gro-gamma chemo 3.48e-03
7 86 100.0 73 24 W17672 Human chemokine gro g 3.48e-03
8 86 100.0 106 4 R20335 Human gro gamma cyto 3.48e-03
9 86 100.0 107 4 R20530 Human macrophage infl 3.48e-03
10 86 100.0 107 4 R20590 Human macrophage infl 3.48e-03
11 86 100.0 107 13 R70794 Gro-gamma/MIP-2-beta. 3.48e-03
12 79 91.9 73 39 W81499 human gro-beta polype 2.65e-02
13 79 91.9 73 12 R66699 Human gro-beta chemok 2.65e-02
14 79 91.9 73 24 W17671 Human chemokine gro b 2.65e-02
15 79 91.9 73 25 W18025 Human chemokine gro b 2.65e-02
16 79 91.9 73 7 R36771 MIP-2alpha. 2.65e-02

17 79 91.9 102 13 R70793 Gro-beta/MIP-2-alpha. 2.65e-02
18 79 91.9 107 4 R20334 Human Gro beta cyto 2.65e-02
19 79 91.9 107 4 R20589 Human macrophage infl 2.65e-02
20 79 91.9 107 4 R20529 Human macrophage infl 2.65e-02
21 73 84.9 72 23 W12436 Chimeric interleukin- 1.47e-01
22 71 82.6 72 3 R14077 Chemokine-like protei 2.58e-01
23 70 81.4 70 20 R99809 Human mature gro-alph 3.42e-01
24 70 81.4 73 39 W81498 Human mature gro-alph 3.42e-01
25 70 81.4 73 25 W18024 Human chemokine gro a 3.42e-01
26 70 81.4 73 12 R66698 Human gro-alpha chemo 3.42e-01
27 70 81.4 73 24 W17670 Human chemokine gro a 3.42e-01
28 70 81.4 101 20 R92318 Chemokine-like protei 3.42e-01
29 70 81.4 107 13 R70792 Melanoma growth stimu 3.42e-01
30 67 77.9 100 4 R20528 Murine macrophage inf 7.89e-01
31 67 77.9 100 26 R05790 Macrophage derived inf 7.89e-01
32 67 77.9 100 4 R20588 Murine macrophage inf 7.89e-01
33 64 74.4 72 12 R66697 Mouse KC chemokine. 1.81e+00
34 64 74.4 72 25 W18023 Murine chemokine KC. 1.81e+00
35 64 74.4 72 24 W17669 Murine chemokine KC. 1.81e+00
36 64 74.4 72 39 W81497 Mouse mature KC polyp 1.81e+00
37 63 73.3 11 20 R99808 Active domain from me 2.38e+00
38 59 68.6 24 11 R58627 Putative glycan bindi 7.04e+00
39 59 68.6 24 35 W70292 GRO alpha. 7.04e+00
40 53 61.6 113 32 W50883 Amino acid sequence o 3.45e+01
41 52 60.5 32 13 R70805 Heparanase C-terminal 4.48e+01
42 52 60.5 69 13 R70789 Neutrophil activating 4.48e+01
43 52 60.5 75 25 W26467 Neutrophil activating 4.48e+01
44 52 60.5 128 3 R13519 Leukocyte derived gro 4.48e+01
45 52 60.5 135 2 R07984 CTAP(leu21)/lambl-40 4.48e+01

ALIGNMENTS

RESULT 1
ID W81500 standard; Protein; 73 AA.
AC W81500;
DC 01-MAR-1999 (first entry)
DE Human mature gro-gamma polypeptide used to treat sepsis.
KW Gro-gamma; chemokine; human; sepsis; septic shock; therapy.
OS Homo sapiens.
FH Key Location/Qualifiers
FT Protein 5..73
FT /note= "modified fragment, preferred for use in method of the invention"
PN WO9848828-A1.
PD 05-NOV-1998.
PF 29-APR-1998; U08742.
PR 29-APR-1997; US-846966.
PA (SMIK) SMITHKLINE BEECHAM CORP.
PI Demarsh PL, Johanson KO;
DR WPI; 99-024031/02.
PT Treating and preventing sepsis in animals - by using two modified gro b chemokines in conjunction with an anti-infective agent
PS Example 1; Page 19; 26pp; English.
CC This is the amino acid sequence of the human gro-gamma chemokine mature polypeptide. The invention relates to a method of preventing and treating sepsis using chemokines selected from mature or modified murine KC (see W81497), or human gro-alpha (see W81498), gro-beta (see W81499) or gro-gamma (see W81499). The modified gro-gamma comprises amino acids 5-73 of the mature polypeptide. A claimed method uses a dimer composed of 2 modified gro-beta chemokines. Further claimed is administering the chemokine in conjunction with an anti-infective agent. The chemokines described in this invention are required to treat and prevent sepsis since antimicrobial agents alone have failed to abrogate septic mortality.
SQ Sequence 73 AA;
Query Match 100.0%; Score 86; DB 39; Length 73;
Best Local Similarity 100.0%; Pred. No. 3.48e-03;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Db 49 kacInpaspvmvq 60
|||||||

QY 1 KACLNPASPMVQ 12

RESULT 2
 ID W18026 standard; protein; 73 AA.
 AC W18026;
 DT 30-JAN-1998 (first entry)
 DE Human chemokine gro gamma.
 KW Sepsis; septic shock; therapy; gro gamma; chemokine; human.
 OS Homo sapiens.
 FH Key Location/Qualifiers
 FT 5..73
 FT Protein
 FT /note= "preferred modified fragment of KC
 FT (Claim 5)"
 PN W09719173-A1.
 PD 29-MAY-1997.
 PF 20-NOV-1996; U18616.
 PR 21-NOV-1995; US-007425.
 PI (SMIK) SMITHKLINE BEECHAM CORP.
 PI DeMarsh PL, Johanson KO;
 DR WPI: 97-298111/27.
 PT Use of chemokine(s) such as KC and gro-alpha - to treat or prevent
 PT sepsis, particularly septic shock
 PS Claim 1; Page 19-20; 28pp; English.
 CC A claimed method of treating or preventing sepsis comprises
 CC administering to an animal an effective amount of a chemokine
 CC selected from mature murine KC (see W18023), human gro alpha (see
 CC W18024), human gro beta (see W18025) and human gro gamma (W18026),
 CC modified fragments of these chemokines and multimeric proteins
 CC comprising an association of two chemokine proteins. Sepsis can
 CC occur in hospitalised patients, and a consequence of bacterial
 CC sepsis is septic shock. The method of the invention provides a
 CC treatment for sepsis, particularly septic shock, which is a major
 CC cause of death in intensive care units. Septic shock syndrome
 CC apparently has intractable resistance to the effects of a variety
 CC of highly potent antimicrobial agents. Survival is increased by
 CC treatment with the chemokines, both prophylactically and after
 CC infection. 73 AA;
 SQ Sequence

Query Match 100.0%; Score 86; DB 25; Length 73;
 Best Local Similarity 100.0%; Pred. No. 3.48e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 49 kaclnpaspmvq 60
 QY 1 KACLNPASPMVQ 12
 |||||

RESULT 3
 ID W12434 standard; peptide; 73 AA.
 AC W12434;
 DT 08-OCT-1997 (first entry)
 DE Chimeric interleukin-8 receptor binding polypeptide G18I32G.
 KW Chimeric; IL-8; receptor mediated biological response; inhibition;
 KW signal transduction; chemokine; human.
 OS Chimeric-Homo sapiens.
 FH Key Location/Qualifiers
 FT 1..18
 FT region
 FT /note= "Amino acids 1 to 18 of SEQ ID NO:2 in the
 FT specification from GRO-gamma"
 FT 19..33
 FT region
 FT /note= "Amino acids 18 to 32 of SEQ ID NO:1 in the
 FT specification from human interleukin-8"
 FT 34..73
 FT region
 FT /note= "Amino acids 34 to 73 of SEQ ID NO:2 in the
 FT specification from GRO-gamma"
 PN W09700893-A1.
 PD 09-JAN-1997.
 PF 18-JUN-1996; U10536.
 PR 05-APR-1996; US-628893.
 PR 20-JUN-1995; US-493252.
 PR 27-JUN-1995; US-000698.

PA (CHIR) CHIRON CORP.
 PI Blaney J, Shyamala V, Siani M, Tekamp-Olson P, Wernette-Hammond ME;
 DR WPI: 97-087324/08.
 PT New chimeric interleukin-8 polypeptide(s) - used for modulating IL-8
 PT receptor-mediated biological responses, e.g. inhibiting signal
 PT transduction
 PS Claim 26; Page -: 38pp; English.
 CC The present sequence represents a specifically claimed chimeric
 CC polypeptide G18I32G derived from human interleukin-8 (IL-8) and
 CC GRO-gamma. This polypeptide and similar examples of chimeric
 CC chemokines (I46G53I and I18G46I53G) also derived from human IL-8
 CC and GRO-gamma, exhibit a chemokine protein structure capable
 CC of IL8R1 or IL8R2 binding. They can be used for modulating IL8
 CC receptor-mediated biological responses. In particular, they can be
 CC used for inhibiting IL8 receptor signal transduction.
 CC N.B. The present sequence is not shown in the specification but is
 CC derived from SEQ ID NO:1 and 2, see features table.
 SQ Sequence 73 AA;

Query Match 100.0%; Score 86; DB 23; Length 73;
 Best Local Similarity 100.0%; Pred. No. 3.48e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 49 kaclnpaspmvq 60

QY 1 KACLNPASPMVQ 12

RESULT 4

ID R93194 standard; protein; 73 AA.

AC R93194;

DT 31-JUL-1996 (first entry)

DE Protein used to generate IL-8/Gro(gamma) chimeric peptides.

KW Native; human; interleukin-8; specific binding domain; receptor;

KW amino-terminal loop; anti-parallel; beta-sheet; Greek key; substitution;

KW insertion; deletion; reduction; enhancement; chemo-attractant;

KW neutrophil; modulation; biological response.

OS Synthetic.

PN W09535376-A2.

PD 28-DEC-1995.

PF 20-JUN-1995; U07895.

PR 20-JUN-1994; US-262990.

PA (CHIR) CHIRON CORP.

PI Tekamp-Olson P, Venkatakrishna S, Wernette-Hammond ME;

DR WPI: 96-058413/06.

PT Interleukin-8 receptor 1 specific binding domain peptide(s) - used

PT to modulate IL-8R1 mediated biological response

PS Example 3; Page 42; 51pp; English.

CC This is the amino acid sequence of a protein (not designated in this
 CC specification but thought to be GRO(gamma), an agonist of the human
 CC interleukin (IL)-8 receptor type R2 (see W092/00326)). The protein was
 CC used to generate GRO(gamma)/IL-8R1 binding domain chimaeras by replacing
 CC selected residues from the GRO(gamma) protein with corresp. residues from
 CC IL-8 (R88057). The chimaeric proteins were used to generate peptides
 CC comprising an IL-8R2 binding peptide with residues from the specific
 CC binding domain for the IL-8 receptor type R1. These domains are found
 CC in the amino-terminal loop and strand 3 of the 3 stranded anti-parallel
 CC beta-sheet (Greek key) of IL-8. In particular, residues 11 (Lys),
 CC 13 (Tyr), 15 (Lys), 47 (Arg), 48 (Glu), 49 (Leu) and 53 (Pro) of the
 CC native IL-8 are important for binding to the IL-8 R1 receptor.

CC Substitutions, insertions or deletions of these residues may alter
 CC (reduce or enhance) IL-8 binding to the R1 receptor. Since IL-8 is a
 CC chemo-attractant for neutrophils, the peptides can be used to modulate
 CC an IL-8R1 mediated biological response.
 SQ Sequence 73 AA;

Query Match 100.0%; Score 86; DB 17; Length 73;

Best Local Similarity 100.0%; Pred. No. 3.48e-03;

Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 49 kaclnpaspmvq 60

QY 1 KACLNPASPMVQ 12

|||||

RESULT 5
 ID R36772 standard; protein; 73 AA.
 AC R36772;
 DT 29-SEP-1993 (first entry)
 DE MIP-2beta.
 KW Macrophage inflammatory protein; megakaryocytopoiesis; MIP-1; MIP-2;
 KW thrombocythemia; reactive thrombocytosis; stroke; emboli; platelet;
 KW myeloproliferative disorder.
 OS Homo sapiens.
 PN WO9309799-A.
 PD 27-MAY-1993.
 PF 13-NOV-1992; U09671.
 PR 15-NOV-1991; US-792988.
 PA (UYPE-) UNIV PENNSYLVANIA.
 PI Gewirtz AW;
 DR WPI; 93-182239/22.
 PT Suppression of megakaryocytopoiesis - by administration of
 PT macrophage inflammatory protein-1 or -2
 PS Disclosure; Page 18; 26pp; English.
 CC A claimed method for reducing the no. of circulating platelets in the
 CC bloodstream of a mammal comprises admin. of MIP-1 and/or MIP-2 or
 CC their analogues to induce such a reduction. The MIP-1, MIP-2 or
 CC analogue may be operatively linked to a carrier. The MIPs can be
 CC used to inhibit megakaryocytopoiesis to effect in vivo reduction of
 CC platelet nos. They can be used to treat disorders with excessively
 CC high platelet counts such as thrombocytosis, stroke, pulmonary emboli
 CC and myeloproliferative disorders.
 SQ Sequence 73 AA;

Query Match 100.0%; Score 86; DB 7; Length 73;
 Best Local Similarity 100.0%; Pred. No. 3.48e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 49 kaclnpaspvmq 60
 |||||
 QY 1 KACLNPAASPVMQ 12

RESULT 6
 ID R66700 standard; protein; 73 AA.
 AC R66700;
 DT 19-JUL-1995 (first entry)
 DE Human gro-gamma chemokine.
 KW Gro-alpha protein; chemokine; inflammation; antiinflammatory;
 KW hematopoietic synergistic factor; HSF; hematopoietic precursor;
 KW bone marrow; intercrine; desamino gro-gamma; truncation.
 OS Homo sapiens.
 FH Key
 FT Location/Qualifiers
 FT 5..73
 FT /note="desamino truncated gro-gamma, claim 10,
 FT page 69"
 PN WO9429341-A.
 PD 22-DEC-1994.
 PF 03-JUN-1994; U06264.
 PR 08-JUN-1993; US-073800.
 PA (SMIK) SMITHKLINE BEECHAM CORP.
 PI Balcarek JM, Bhatnagar P, King AG, Pelus LM;
 DR WPI; 95-036402/05.
 PT New truncated chemokine with increased biological activity - and
 PT related multimers, nucleic acid, antibodies etc., for treating
 PT inflammation, stimulating growth of bone marrow etc., also
 PT peptide(s) for inducing hematopoietic synergistic factor.
 PS Disclosure; Page 52; 89pp; English.
 CC Truncated, desamino chemokine comprising amino acids 5-73 of
 CC human mature gro-gamma (full sequence given in R66700)
 CC shows enhanced biological activity when compared to the mature
 CC protein, and has been used to prepare multimeric, modified
 CC chemokines.
 SQ Sequence 73 AA;

Query Match 100.0%; Score 86; DB 12; Length 73;

Best Local Similarity 100.0%; Pred. No. 3.48e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 49 kaclnpaspvmq 60
 |||||
 QY 1 KACLNPAASPVMQ 12

RESULT 7
 ID W17672 standard; Protein; 73 AA.
 AC W17672;
 DT 25-NOV-1997 (first entry)
 DE Human chemokine gro gamma.
 KW Gro gamma; chemokine; intercrine; myelosuppression;
 KW immunosuppression; hematopoietic cell; infection; cancer;
 KW aplastic anaemia; autoimmune disease; stem cell transplant;
 KW therapy.
 OS Homo sapiens.
 FH Key
 FT Location/Qualifiers
 FT 5..73
 FT /note="preferred polypeptide (Claim 4)"

PN WO9715595-A1.
 PD 01-MAY-1997.
 PF 24-OCT-1996; U17074.
 PR 24-OCT-1995; US-547262.
 PA (SMIK) SMITHKLINE BEECHAM CORP.
 PI King AG, Pelus LM;
 DR WPI; 97-258957/23.
 PT Use of specific chemokine(s) for stem cell mobilisation - useful for
 PT treating myelosuppression or any condition involving
 PT immunosuppression or low levels of haematopoietic cells
 PS Claim 1; Page 21; 31pp; English.
 CC This polypeptide sequence comprises human gro gamma. Use of
 CC mammalian chemokines selected from gro alpha (W17670), gro beta
 CC (W17671), gro gamma or KC (W17669) for mobilising haematopoietic
 CC cells is claimed. The chemokines, optionally used together with a
 CC growth factor or other haematopoietic regulator, are used to treat
 CC myelosuppression or any condition that involves immunosuppression
 CC or low levels of haematopoietic cells, e.g. infection, cancer,
 CC myelopietic dysfunction, haematopoietic disorders, aplastic anaemia
 CC or autoimmune disease, or low production/differentiation of
 CC haematopoietic or bone marrow cells. A claimed application is in
 CC peripheral blood stem cell transplants in patients being treated by
 CC chemotherapy. Chemokines having an N-terminal deletion are more
 CC active, e.g. by 2 orders of magnitude, than the full-length protein.
 CC When used with a colony stimulating factor (CSF), a synergistic
 CC effect is achieved and the dose, and side-effects, of CSF can be
 CC reduced. Compared with conventional methods of stem cell transplants,
 CC use of mammalian chemokines provides a more rapid release of
 CC peripheral blood mononuclear cells and/or platelets, reducing risk of
 CC infection and allowing use of higher doses of chemotherapeutic
 CC agents.
 SQ Sequence 73 AA;

Query Match 100.0%; Score 86; DB 24; Length 73;
 Best Local Similarity 100.0%; Pred. No. 3.48e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 49 kaclnpaspvmq 60
 |||||
 QY 1 KACLNPAASPVMQ 12

RESULT 8
 ID R23035 standard; Protein; 106 AA.
 AC R23035;
 DT 26-OCT-1992 (first entry)
 DE Human Gro gamma cytokine.
 KW Cytokine; inflammatory response; MAD-2; cancer diagnosis;
 KW colonic epithelial tumour cell.
 OS Homo sapiens.
 FH Key
 FT Location/Qualifiers
 FT peptide 1..34

FT /label= signal
 FT /note= "putative"
 FT 35..106
 FT /label= Gro_gamma
 PN WO9206196-A.
 PN 16-APR-1992.
 PD 24-SEP-1991; U06936.
 PF 28-SEP-1990; US-590223.
 PR (CETU) CETUS CORP.
 PA (YINC-) UNIV OF NORTH CAROLINA.
 PI Haskill JS, Nitecki DE, Ralph P;
 DR WPI; 92-150882/18.
 DR N-PSDB: Q24267.
 PT Gro beta and Gro gamma inflammatory cytokine(s) - for use in
 PT diagnosing colon cancer
 PS Claim 25; Fig 1B; 46pp; English.
 CC The cDNA clone coding for inflammatory cytokine Gro-gamma was
 CC isolated from a mezerin- and calcium ionophore-stimulated leukocyte
 CC cDNA library. The amino acid sequence of Gro gamma was deduced from
 CC the nucleotide sequence. The level of Gro gamma in inflammatory
 CC response cells can be used as an indication of a test substance's
 CC inflammatory activity and to diagnose certain cancers.
 CC See also Q24266.
 SQ Sequence 106 AA;

Query Match 100.0%; Score 86; DB 4; Length 106;
 Best Local Similarity 100.0%; Pred. No. 3.48e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 82 kaclnpasmvq 93
 |||||
 QY 1 KACLNPASPMVQ 12

RESULT 9
 ID R20530 standard; Protein; 107 AA.
 AC R20530;
 DT 23-APR-1992 (first entry)
 DE Human macrophage inflammatory protein (MIP) 2 beta.
 KW Inducible; secretory; inflammatory response; cytokine.
 OS Homo sapiens.
 FH Key
 FT Location/Qualifiers
 FT peptide
 FT 1..34
 FT /label= signal
 PN WO9200326-A.
 PN WO9200327-A.
 PD 09-JAN-1992.
 PF 24-JUN-1991; U04482.
 PR 22-JUN-1990; US-541897.
 PR 19-JUN-1991; US-715194.
 PA (CHIR-) CHIRON CORP.
 PI Tekamp-Olson P, Gallegos CA;
 DR WPI; 92-041518/05.
 DR N-PSDB: Q20730.
 PT Human macrophage inflammatory protein 2-beta - for
 PT treating infections, cancer, myelopietic dysfunction and auto:
 PT immune diseases
 PS Disclosure; Fig 3; 68pp; English.
 CC The sequence was deduced from the DNA obtd. by screening the U937
 CC cDNA library prep. from poly-A+ RNA from PMA treated and LPS
 CC stimulated cells, using as probe a fragment isolated from the
 CC mMIP-2 cDNA (see Q20728) encoding most of the mature mMIP-2 amino
 CC acid sequence. Two classes of human cDNA homologous to mMIP-2 were
 CC found designated alpha and beta. The alpha form (Q20729) is
 CC claimed in WO9200327; the beta form reproduced here is claimed in
 CC WO9200326. The alpha form is the more abundant of the two. The
 CC genes can be used to produce recombinant MIP proteins for use in
 CC wound healing, to modulate myelopoiesis and to induce adjuvant
 CC activity.
 CC See also R20528,29 and R20588-90.
 SQ Sequence 107 AA;

Query Match 100.0%; Score 86; DB 4; Length 107;

Best Local Similarity 100.0%; Pred. No. 3.48e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 83 kaclnpasmvq 94
 |||||
 QY 1 KACLNPASPMVQ 12

RESULT 10
 ID R20590 standard; Protein; 107 AA.
 AC R20590;
 DT 23-APR-1992 (first entry)
 DE Human macrophage inflammatory protein (MIP) 2 beta.
 KW Inducible; secretory; inflammatory response; cytokine.
 OS Homo sapiens.
 FH Key
 FT Location/Qualifiers
 FT peptide
 FT 1..34
 FT /label= signal
 PN WO9200326-A.
 PN WO9200327-A.
 PD 09-JAN-1992.
 PF 24-JUN-1991; U04478.
 PR 22-JUN-1990; US-541898.
 PR 19-JUN-1991; US-715195.
 PA (CHIR-) CHIRON CORP.
 PI Tekamp-Olson P, Gallegos CA;
 DR WPI; 92-041518/05.
 DR N-PSDB: Q20614.
 PT Human macrophage inflammatory protein 2-beta - for
 PT treating infections, cancer, myelopietic dysfunction and auto:
 PT immune diseases
 PS Disclosure; Fig 3; 68pp; English.
 CC The sequence was deduced by screening the U937 cDNA library prep.
 CC from poly-A+ RNA from PMA treated and LPS stimulated cells, using
 CC as probe a fragment isolated from the mMIP-2 cDNA (see Q20612)
 CC encoding most of the mature mMIP-2 amino acid sequence. Two classes
 CC of human cDNA homologous to mMIP-2 were found designated alpha and
 CC beta. The alpha form (Q20613) is claimed in WO9200327; the beta
 CC form reproduced here is claimed in WO9200326. The alpha form is the
 CC more abundant of the two. The genes can be used to produce
 CC recombinant MIP proteins for use in wound healing, to modulate
 CC myelopoiesis and to induce adjuvant activity.
 CC See also R20588,89 and R20528-30.
 SQ Sequence 107 AA;

Query Match 100.0%; Score 86; DB 4; Length 107;
 Best Local Similarity 100.0%; Pred. No. 3.48e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 83 kaclnpasmvq 94
 |||||
 QY 1 KACLNPASPMVQ 12

RESULT 11
 ID R70794 standard; Protein; 107 AA.
 AC R70794;
 DT 29-AUG-1995 (first entry)
 DE Gro-gamma/MIP-2-beta.
 KW Macrophage inflammatory protein 2-beta; gro-gamma/MIP-2-beta;
 KW heparanase; heparin; heparan sulfate; arthritis; restenosis;
 KW cancer; wound healing.
 OS Homo sapiens.
 PN WO9504158-A.
 PD 09-FEB-1995.
 PF 26-JUL-1994; U08207.
 PR 29-JUL-1993; US-099866.
 PR 13-OCT-1993; US-136117.
 PA (UFJO) UFJOHN CO.
 PI Hoogwerf AJ, Ledbetter SR;
 DR WPI; 95-082239/11.
 DR N-PSDB: Q85364.
 PT Screening for cpds. with anti-heparanase activity - by detecting

PT inhibition of heparin or heparan sulphate degradation,
 PS potentially useful for treating arthritis, restenosis, cancer.
 PT Claim 12: Page 41-42; 60pp; English.
 CC Purified heparanases, prepared under reducing conditions and
 CC activated with transglutaminase, are given in R70786-804. Most
 CC are prepared by reverse transcription of mRNA from activated human
 CC leukocytes, then cloning of the cDNA into pVL1392 baculovirus
 CC vector, and expression in Sf9 cells in the presence of reduced
 CC glutathione and dithiothreitol.
 SQ Sequence 107 AA;

Query Match 100.0%; Score 86; DB 13; Length 107;
 Best Local Similarity 100.0%; Pred. No. 3.48e-03;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 83 kaclnpasmvq 94
 QY 1 KACLNPAAPMVQ 12
 |||||

RESULT 12

ID W81499 standard; Protein; 73 AA.

AC W81499;

DT 01-MAR-1999 (first entry)

DE human gro-beta polypeptide used to treat sepsis.

KW Gro-beta; chemokine; human; sepsis; septic shock; therapy.

OS Mus sp.

FH Key Location/Qualifiers

FT Protein

5.73 /note= "claimed fragment"

FT WO9848828-A1.

PN 05-NOV-1998.

PD 29-APR-1998; U08742.

PR 29-APR-1997; US-846966.

PA (SMIK) SMITHKLINE BEECHAM CORP.

PI Demarsh PL, Johanson KO;

DR WPI; 99-024031/02.

PT Treating and preventing sepsis in animals - by using two modified

PT gro b chemokines in conjunction with an anti-infective agent

PS Example 1; Page 18; 26pp; English.

CC This is the amino acid sequence of the human chemokine gro-beta

CC mature polypeptide. The invention relates to a method of

CC preventing and treating sepsis using chemokines selected from

CC mature or modified murine KC (see W81497), or human gro-alpha (see

CC W81498), gro-beta or gro-gamma (see W81499). A claimed method uses

CC a dimeric chemokine consisting of 2 covalently linked modified

CC gro-beta proteins (amino acids 5-73 of the mature polypeptide)

CC in which the proteins are linked by 2 intermolecular disulphide

CC bonds between C5-C31 and C7-C47. Further claimed is administering

CC the chemokine in conjunction with an anti-infective agent. The

CC chemokines described in this invention are required to treat and

CC prevent sepsis since antimicrobial agents alone have failed to

CC abrogate septic mortality.

SQ Sequence 73 AA;

Query Match 91.9%; Score 79; DB 39; Length 73;

Best Local Similarity 100.0%; Pred. No. 2.65e-02;

Matches 11; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 49 kaclnpasmvq 59

QY 1 KACLNPAAPMVQ 11

RESULT 13

ID R66699 standard; protein; 73 AA.

AC R66699;

DT 19-JUL-1995 (first entry)

DE Human gro-beta chemokine.

KW Gro-alpha protein; chemokine; inflammation; antiinflammatory;

KW hematopoietic synergistic factor; HSF; hematopoietic precursor;

KW bone marrow; interleukine; desamino gro-beta; truncation.

OS Homo sapiens.

FH Key Location/Qualifiers

FT protein

5.73 /note= "desamino truncated gro-beta, claim 6,

FT page 68"

PN WO9429341-A.

PD 22-DEC-1994.

PF 03-JUN-1994; U06264.

PR 08-JUN-1993; US-073800.

PA (SMIK) SMITHKLINE BEECHAM CORP.

PI Balcarek JM, Bhatnagar P, King AG, Pelus LM;

DR WPI; 95-036402/05.

PT New truncated chemokine with increased biological activity - and

PT related multimers, nucleic acid, antibodies etc., for treating

PT inflammation, stimulating growth of bone marrow etc., also

PT peptide(s) for inducing hematopoietic synergistic factor.

PS Disclosure: Page 51-52; 89pp; English.

CC Truncated, desamino chemokine comprising amino acids 5-73 of

CC human mature gro-beta (full sequence given in R66699)

CC shows enhanced biological activity when compared to the mature

CC protein, and has been used to prepare multimeric, modified

CC chemokines.

SQ Sequence 73 AA;

Query Match 91.9%; Score 79; DB 12; Length 73;

Best Local Similarity 100.0%; Pred. No. 2.65e-02;

Matches 11; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 49 kaclnpasmvq 59

QY 1 KACLNPAAPMVQ 11

RESULT 14

ID W17671 standard; Protein; 73 AA.

AC W17671;

DT 25-NOV-1997 (first entry)

DE Human chemokine gro beta.

KW Gro beta; chemokine; interleukine; myelosuppression;

KW immunosuppression; hematopoietic cell; infection; cancer;

KW aplastic anaemia; autoimmune disease; stem cell transplant;

KW therapy.

OS Homo sapiens.

FH Key Location/Qualifiers

FT protein

5.73 /note= "preferred polypeptide (Claim 2)"

PN WO9715595-A1.

PD 01-MAY-1997.

PF 24-OCT-1996; U17074.

PR 24-OCT-1995; US-547262.

PA (SMIK) SMITHKLINE BEECHAM CORP.

PI King AG, Pelus LM;

DR WPI; 97-258957/23.

PT Use of specific chemokine(s) for stem cell mobilisation - useful for

PT treating myelosuppression or any condition involving

PT immunosuppression or low levels of hematopoietic cells

PS Claim 1; Page 21; 31pp; English.

CC This polypeptide sequence comprises human gro beta. Use of

CC mammalian chemokines selected from gro alpha (W17670), gro beta,

CC gro gamma (W17672) or KC (W17669) for mobilising hematopoietic

CC cells is claimed. The chemokines, optionally used together with a

CC growth factor or other hematopoietic regulator, are used to treat

CC myelosuppression or any condition that involves immunosuppression

CC or low levels of hematopoietic cells, e.g. infection, cancer,

CC myelopietic dysfunction, hematopoietic disorders, aplastic anaemia

CC or autoimmune disease, or low production/differentiation of

CC hematopoietic or bone marrow cells. A claimed application is in

CC peripheral blood stem cell transplants in patients being treated by

CC chemotherapy. Chemokines having an N-terminal deletion are more

CC active, e.g. by 2 orders of magnitude, than the full-length protein.

CC When used with a colony stimulating factor (CSF), a synergistic

CC effect is achieved and the dose, and side-effects, of CSF can be

CC reduced. Compared with conventional methods of stem cell transplants,

CC use of mammalian chemokines provides a more rapid release of

CC peripheral blood mononuclear cells and/or platelets, reducing risk of
 CC infection and allowing use of higher doses of chemotherapeutic
 CC agents.
 SQ Sequence 73 AA;

Query Match 91.9%; Score 79; DB 24; Length 73;
 Best Local Similarity 100.0%; Pred. No. 2.65e-02;
 Matches 11; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 49 kaclnpaspnv 59
 |||||
 QY 1 KACLNPA SPNV 11

RESULT 15
 ID W18025 standard; protein; 73 AA.
 AC W18025;
 DT 30-JAN-1998 (first entry)
 DE Human chemokine gro beta.
 KW Sepsis; septic shock; therapy; gro beta; chemokine; human.
 OS Homo sapiens.
 FH Key Location/Qualifiers
 FT Protein 5..73
 FT /note= "preferred modified fragment of KC
 (Claim 2)"
 PN WO9719173-A1.
 PD 29-MAY-1997.
 PF 20-NOV-1996; U18616.
 PR 21-NOV-1995; US-007425.
 PA (SMIK) SMITHKLINE BEECHAM CORP.
 PI DeMarsh PL, Johanson KO;
 DR WPI; 97-298111/27.
 PT Use of chemokine(s) such as KC and gro-alpha - to treat or prevent
 PT sepsis, particularly septic shock
 PS Claim 1; Page 19; 28pp; English.
 CC A claimed method of treating or preventing sepsis comprises
 CC administering to an animal an effective amount of a chemokine
 CC selected from mature murine KC (see W18023), human gro alpha (see
 CC W18024), human gro beta (W18025) and human gro gamma (see
 CC W18026), modified fragments of these chemokines and multimeric
 CC proteins comprising an association of two chemokine proteins.
 CC Sepsis can occur in hospitalised patients, and a consequence of
 CC bacterial sepsis is septic shock. The method of the invention
 CC provides a treatment for sepsis, particularly septic shock, which
 CC is a major cause of death in intensive care units. Septic shock
 CC syndrome apparently has intractable resistance to the effects of
 CC a variety of highly potent antimicrobial agents. Survival is
 CC increased by treatment with the chemokines, both prophylactically
 CC and after infection.
 SQ Sequence 73 AA;

Query Match 91.9%; Score 79; DB 25; Length 73;
 Best Local Similarity 100.0%; Pred. No. 2.65e-02;
 Matches 11; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 49 kaclnpaspnv 59
 |||||
 QY 1 KACLNPA SPNV 11

Search completed: Fri Feb 4 18:14:04 2000
 Job time : 19 secs.